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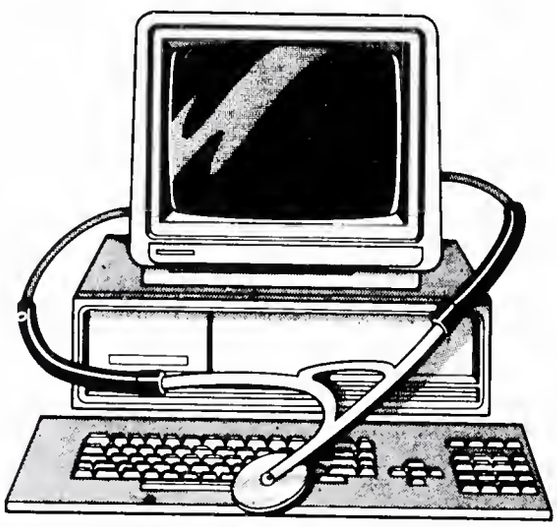
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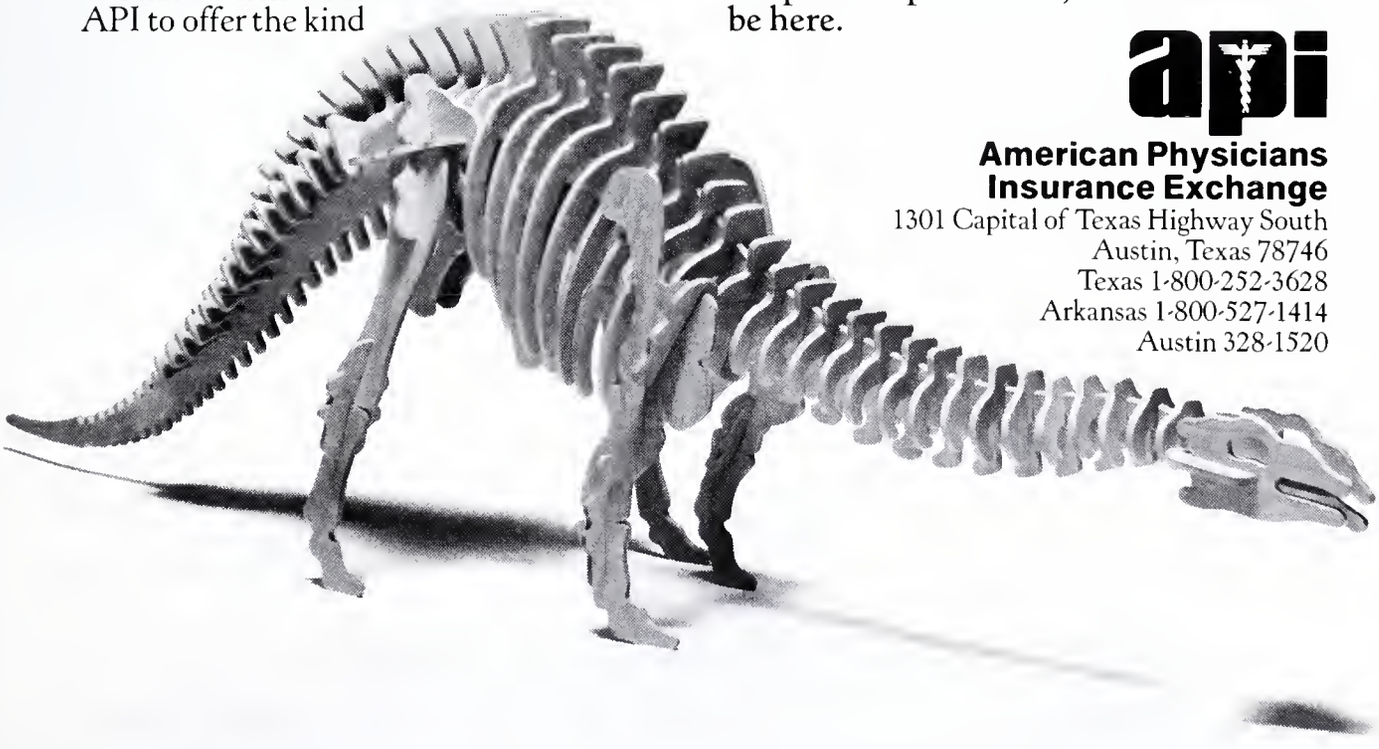
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SCIENTIFIC ARTICLES

Tics and Tourette's Syndrome: A Review 53
Robert C. Woody, M.D., and Mark Laney, M.D.

Alternatives to Ileostomy in 1986 56
Stanley M. Goldberg, M.D., F.A.C.S., and Carol-Ann Vasilevsky, M.D.

Small Fenestra Stapedectomy 62
H. A. Ted Bailey, Jr., M.D., James J. Pappas, M.D., and Sharon S. Graham, M.A.

FEATURES

ECG of the Month 65
John Smith, M.D., and John W. Watson, M.D.

Orthopedic Trends: "There Is Nothing That Can Be Done" 66
R. Barry Sorrells, M.D.

Editorial: "A New Treatment Vista for Diabetic Complications" 72
Alfred Kahn, Jr., M.D.

From Other Years: "William Jefferson Darby, Jr., M.D.-Nutritionist" 75
Calvin Hanna, Ph.D.

Medicine in the News 76

Keeping Up 78

Things to Come 80

Personal and News Items 81

New Members 82

Obituaries 83

Resolution 84

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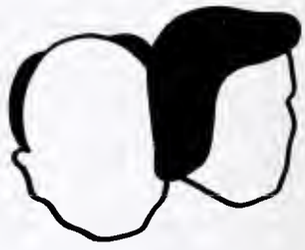
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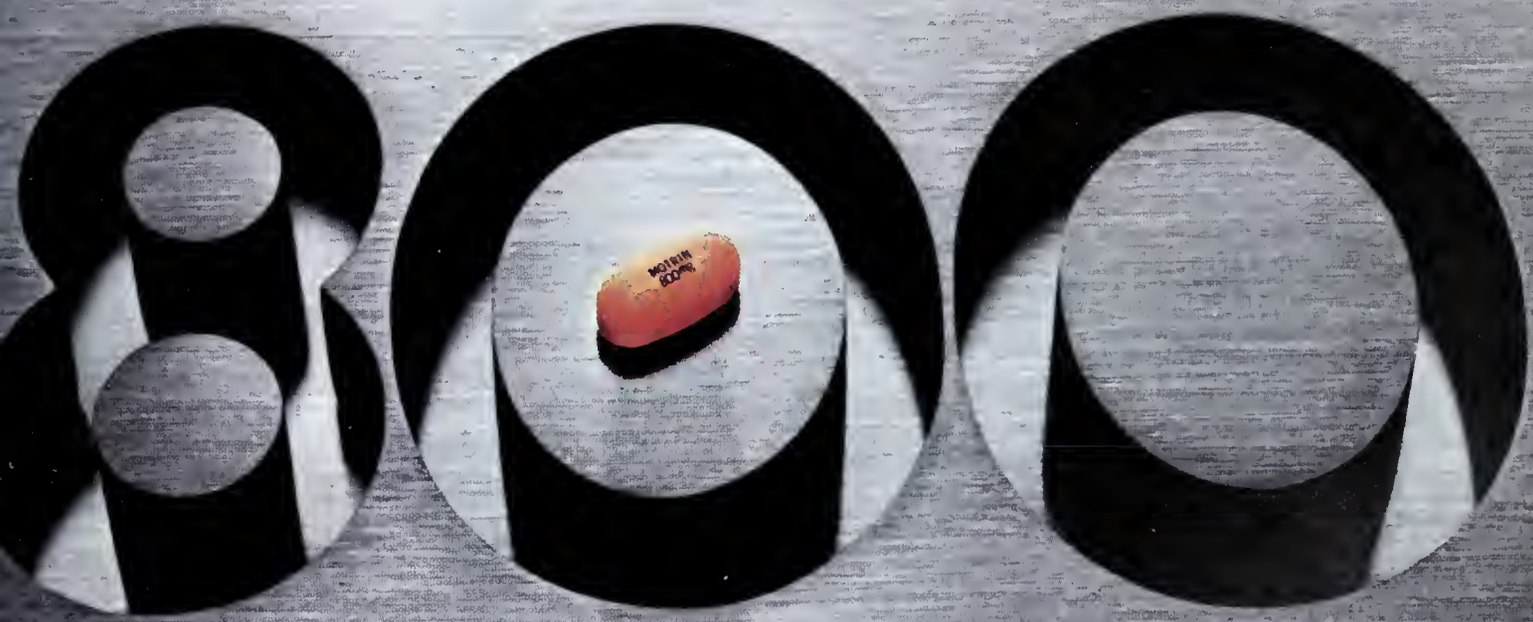
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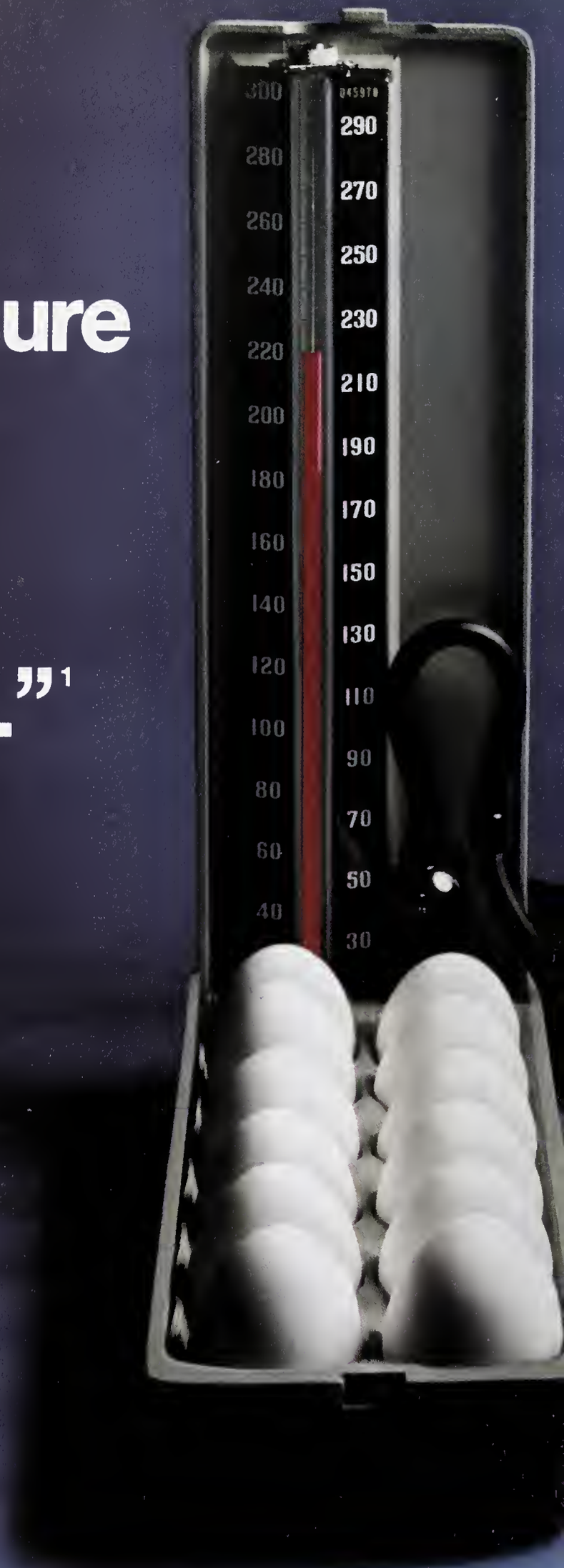
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You need to know, because high cholesterol parallels high blood pressure as a CHD risk factor.

Epidemiological studies and large-scale prevention trials have indicated that as with blood pressure, serum cholesterol levels are proportionately related to CHD risk.

Specifically, *"...for every 10 mmHg rise in pressure, there appears to be about a 30% rise in cardiovascular risk."*[4] *"...for every one percent you go up the American cholesterol scale, your subsequent rate of heart attack rises two to three percent."*[5]

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While Wytensin is not a cholesterol-lowering agent and is not indicated for the treatment of hyperlipidemia, in controlled clinical trials[6] it caused a slight, sustained decrease in total cholesterol without reducing the HDL fraction or altering serum triglycerides.

At the same time, Wytensin lowered blood pressure as effectively as hydrochlorothiazide, propranolol, clonidine or methyldopa. Drowsiness and/or dry mouth, the most frequent side effects noted with Wytensin, usually diminish or disappear over time. In fact, in double-blind studies to date, discontinuance of therapy for all side effects occurred in about 13% of patients.

WyTensin®
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Antihypertensive therapy that does not increase cholesterol



See important information on following page.

References: 1. Glueck CJ: Remarks in the symposium, *Blood Pressure, Cholesterol and Coronary Heart Disease*, Washington, D.C., March 31, 1985. 2. *The Framingham Study, An epidemiological investigation of cardiovascular disease*, Section 28, U.S. Dept. of Health, Education, and Welfare. 3. National Institutes of Health Consensus Development Conference Statement, 1984: Vol 5, No 7, p 4. 4. Chobanian AV: The influence of hypertension and other hemodynamic factors in atherogenesis. *Progress in Cardiovascular Diseases, XXVI* (3): 177, Nov/Dec, 1983. 5. Castelli WP: Remarks in the symposium, *Blood Pressure, Cholesterol and Coronary Heart Disease*, Washington, D.C., March 31, 1985. 6. Data on file, Wyeth Laboratories.

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Brief Summary

Before prescribing, consult the complete package circular.

Indications and Usage: Treatment of hypertension, alone or in combination with a thiazide diuretic

Contraindication: Known sensitivity to the drug.

Precautions: 1. Sedation. Causes sedation or drowsiness in a large fraction of patients. When used with centrally active depressants, e.g., phenothiazines, barbiturates and benzodiazepines, consider potential for additive sedative effects. 2. Patients with vascular insufficiency. Like other antihypertensives use with caution in severe coronary insufficiency, recent myocardial infarction, cerebrovascular disease, or severe hepatic or renal failure. 3. Rebound. Sudden cessation of therapy with central alpha agonists like **Wytensin** may rarely result in "overshoot" hypertension and more commonly produces increase in serum catecholamines and subjective symptomatology.

INFORMATION FOR PATIENTS. Advise patients on **Wytensin** to exercise caution when operating dangerous machinery or motor vehicles until it is determined they do not become drowsy or dizzy. Warn patients that tolerance for alcohol and other CNS depressants may be diminished. Advise patients not to discontinue therapy abruptly.

LAB TESTS. In clinical trials, no clinically significant lab test abnormalities were identified during acute or chronic therapy. Tests included CBC, urinalysis, electrolytes, SGOT, bilirubin, alkaline phosphatase, uric acid, BUN, creatinine, glucose, calcium, phosphorus, total protein, and Coombs' test. During long-term use there was small decrease in serum cholesterol and total triglycerides without change in high-density lipoprotein fraction. In rare instances occasional nonprogressive increase in liver enzymes was observed, but no clinical evidence of hepatic disease.

DRUG INTERACTIONS. **Wytensin** was not demonstrated to cause drug interactions when given with other drugs, e.g., digitalis, diuretics, analgesics, anxiolytics, and antiinflammatory or antiinfective agents, in clinical trials. However, potential for increased sedation when given concomitantly with CNS depressants should be noted.

DRUG/LAB TEST INTERACTIONS. No lab test abnormalities were identified with **Wytensin** use.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY. No evidence of carcinogenic potential emerged in rats during a two-year oral study with **Wytensin** at up to 9.5 mg/kg/day, i.e., about 10 times maximum recommended human dose. In the Salmonella microsome mutagenicity (Ames) test system, **Wytensin** at 200-500 mcg per plate or at 30-50 mcg/ml in suspension gave dose-related increases in number of mutants in one (TA 1537) of five *Salmonella typhimurium* strains with or without inclusion of rat liver microsomes. No mutagenic activity was seen at doses up to those which inhibit growth in the eukaryotic microorganism, *Schizosaccharomyces pombe*, or in Chinese hamster ovary cells at doses up to those lethal to the cells in culture. In another eukaryotic system, *Saccharomyces cerevisiae*, **Wytensin** produced no activity in an assay measuring induction of repairable DNA damage. Reproductive studies showed a decreased pregnancy rate in rats given high oral doses (9.6 mg/kg), suggesting impairment of fertility. Fertility of treated males (9.6 mg/kg) may also have been affected, as suggested by decreased pregnancy rate of mates, even though females received drug only during last third of pregnancy.

PREGNANCY. Pregnancy Category C. WYTENSIN® MAY HAVE ADVERSE EFFECTS ON FETUS WHEN ADMINISTERED TO PREGNANT WOMEN. A teratology study in mice indicated possible increase in skeletal abnormalities when **Wytensin** is given orally at doses 3 to 6 times maximum recommended human dose of 1.0 mg/kg. These abnormalities, principally costal and vertebral, were not noted in similar studies in rats and rabbits. However, increased fetal loss has been observed after oral **Wytensin** given to pregnant rats (14 mg/kg) and rabbits (20 mg/kg). Reproductive studies in rats have shown slightly decreased live-birth indices, decreased fetal survival rate, and decreased pup body weight at oral doses of 6.4 and 9.6 mg/kg. There are no adequate, well-controlled studies in pregnant women. **Wytensin** should be used during pregnancy only if potential benefit justifies potential risk to fetus.

NURSING MOTHERS. Because no information is available on **Wytensin** excretion in human milk, it should not be given to nursing mothers.

PEDIATRIC USE. Safety and effectiveness in children less than 12 years of age have not been demonstrated, use in this age group cannot be recommended.

Adverse Reactions: Incidence of adverse effects was ascertained from controlled clinical studies in U.S. and is based on data from 859 patients on **Wytensin** for up to 3 years. There is some evidence that side effects are dose-related. Following table shows incidence of adverse effects in at least 5% of patients in study comparing **Wytensin** to placebo, at starting dose of 8 mg b.i.d.

Adverse Effect	Placebo (%) n = 102	**Wytensin** (%) n = 109
Dry mouth	7	28
Drowsiness or sedation	12	39
Dizziness	7	17
Weakness	7	10
Headache	6	5

In other controlled clinical trials at starting dose of 16 mg/day in 476 patients, incidence of dry mouth was slightly higher (38%) and dizziness was slightly lower (12%), but incidence of most frequent adverse effects was similar to placebo-controlled trial. Although these side effects were not serious, they led to discontinuation of treatment about 15% of the time. In more recent studies using an initial dose of 8 mg/day in 274 patients, incidence of drowsiness or sedation was lower, about 20%. Other adverse effects reported during clinical trials but not clearly distinguishable from placebo effects and occurring with frequency of 3% or less. Cardiovascular—chest pain, edema, arrhythmias, palpitations. Gastrointestinal—nausea, epigastric pain, diarrhea, vomiting, constipation, abdominal discomfort. Central nervous system—anxiety, ataxia, depression, sleep disturbances. ENT disorders—nasal congestion. Eye disorders—blurring of vision. Musculoskeletal—aches in extremities, muscle aches. Respiratory—dyspnea. Dermatologic—rash, pruritus. Urogenital—urinary frequency, disturbances of sexual function. Other—gynecomastia, taste disorders.

Drug Abuse and Dependence: No dependence or abuse has been reported.

Overdosage: Accidental ingestion caused hypotension, somnolence, lethargy, irritability, miosis, and bradycardia in two children aged one and three years. Gastric lavage and pressor substances, fluids, and oral activated charcoal resulted in complete and uneventful recovery within 12 hours in both. Since experience with accidental overdosage is limited, suggested treatment is mainly supportive while drug is being eliminated and until patient is no longer symptomatic. Vital signs and fluid balance should be carefully monitored. Adequate airway should be maintained and, if indicated, assisted respiration instituted. No data are available on **Wytensin** dialyzability.

Dosage and Administration: Individualize dosage. A starting dose of 4 mg b.i.d. is recommended, whether used alone or with a thiazide diuretic. Dosage may be increased in increments of 4 to 8 mg/day every one to two weeks, depending on response. Maximum dose studied has been 32 mg b.i.d., but doses this high are rarely needed.

How Supplied: (guanabenz acetate) Tablets, 4 mg, bottles of 100 and 500; 8 mg and 16 mg, bottles of 100.

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PINE BLUFF. The Jefferson Comprehensive Care Center, Inc., in Pine Bluff and its satellite clinics in North Pine Bluff, Altheimer, Redfield, and College Station have salaried positions open in the areas of family practice, obstetrics/gynecology, internal medicine, and pediatrics. The well equipped North Pine Bluff Clinic is a 2,440 square foot facility with 8 examination rooms, has a user population of approximately 5,000 and is approximately 5 miles from Jefferson Regional Medical Center. The hours of practice are 40 hours per week with inpatient care, off hours and emergency room coverage. The Altheimer satellite is 14 miles northeast of Pine Bluff and has adequate space for two physicians and includes lab and x-ray facilities. The Redfield satellite is approximately 20 miles south of Prime Center in Pine Bluff. It has offices for two physicians, one nurses' station, reception area, x-ray room and laboratory. The College Station satellite is currently undergoing extensive renovation and when completed will have two examining rooms, reception area, x-ray room, physician's office, and laboratory. College Station is a small rural community of 1,425 and located just outside the city limits of Little Rock.

MARIANNA. Population 6,100; trade area population about 20,000. Opportunities exist in family practice, general practice, and internal medicine, and general preventive medicine. Office space is available. Opportunities exist to join a private practice or a government funded clinic on a salaried basis with satellite clinics in Madison and Lakeview. There is a 25-bed acute care hospital in Marianna.

BLYTHEVILLE. Blytheville has a population of approximately 25,000 with a trade area population approximately 75,000. Blytheville is located in northeast Arkansas approximately 60 miles north of Memphis, Tennessee on Interstate 55. Opportunities exist in the following fields: family practice, gastroenterology, orthopaedic surgery, otorhinolaryngology, pediatrics, pulmonary diseases, radiology, thoracic surgery, and urology. Incoming physicians are provided with personnel, equipment, exam and office furniture, expendables, health and professional liability insurance, accounting and collection services, and tax and investment advice. A substantial guaranteed income is provided. Office space will be adjacent to the Chickasawba Hospital.

WALNUT RIDGE/HOXIE. Population 8,100; trade area population 20,000. Walnut Ridge is 90 miles northwest of Memphis, Tennessee. Opportunities exist for an orthopaedic surgeon, radiologist, obstetrician/gynecologist, and an emergency medicine physician. Physicians would receive the complete cooperation from the hospital, medical staff and community. Group practice is available. Walnut Ridge/Hoxie presently has four family practitioners, one general surgeon, and one internist. Lawrence Memorial Hospital in Walnut Ridge is a 48-bed, general acute facility, fully accredited by JCAH.

POCAHONTAS. Opportunities exist for family or general practitioners and an internist in this community of 6,000. Trade area population approximately 25,000. A clinic is now available for a minimal investment for a family practitioner ready to assume a busy practice. Specialists practicing in the community include: two general surgeons, seven family physicians, with part-time coverage by an orthopaedist, urologist, and pathologist. The hospital emergency room has coverage each night, weekends and all holidays.

PARAGOULD. Population 15,000; trade area 50,000. Paragould is located in Greene County in northeast Arkansas. An opportunity exists for a general internist or internist with sub-specialty in gastroenterology or non-invasive cardiology. The area is served by one board certified internist who desires a partner. Practice arrangements flexible and negotiable. Other opportunities are in otorhinolaryngology and psychiatry. The city and county is served by a 129 bed, non-profit, community operated hospital with full facilities including sonograph, gamma camera, cobalt therapy unit and a CT scanner. The latest hospital expansion in 1980 doubled the floor space of the institution. Paragould currently has approximately 25 physicians.

LAKE VILLAGE. Lake Village, located in southeast Arkansas, has a service area population of approximately 84,000. County population 18,000. An excellent practice opportunity exists for an obstetrician/gynecologist. Currently the nearest obstetrician/gynecologist is located in Greenville, Mississippi approximately 20 miles away. The next nearest obstetrician/gynecologist is located in Pine Bluff, Arkansas, 1½ hours travel time from Lake Village.

The area is served by the Chicot Memorial Hospital located in Lake Village which has 80 acute care beds and is equipped with all services usually found in a facility of its size including CT scanning and nuclear medicine.

Last year there were 271 births at Chicot Memorial Hospital, all delivered by family practice physicians.

FORREST CITY. Forrest City is located on Interstate 40, 45 miles from Memphis, Tennessee and 90 miles from Little Rock. Population approximately 13,800; trade area population approximately 70,000. Opportunities exist in internal medicine, obstetrics and gynecology, and otorhinolaryngology. Financial options are available for qualified physicians. Baptist Memorial Hospital—Forrest City, a full service 118-bed J.C.A.H. hospital with 20 physicians on staff, serves the community.

BRINKLEY. Opportunities exist in Brinkley in anesthesiology, cardiovascular diseases, emergency medicine, family practice, internal medicine, orthopaedic surgery, and physical medicine and rehabilitation. Population 5,700; service area population 30,000. Brinkley is located on Interstate 40, midway between Little Rock and Memphis, Tennessee.

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The Delta Medical Center was acquired by Westworld Health Care, Inc., in 1985. A 28-bed nursing home is at the same location. The hospital serves the residents of Brinkley and draws patients from the entire county as well as parts of Prairie, St. Francis, Woodruff, and Lee Counties.

For more information contact Physician Placement Service, Arkansas Medical Society, Post Office Box 5776, Little Rock, Arkansas 72215.

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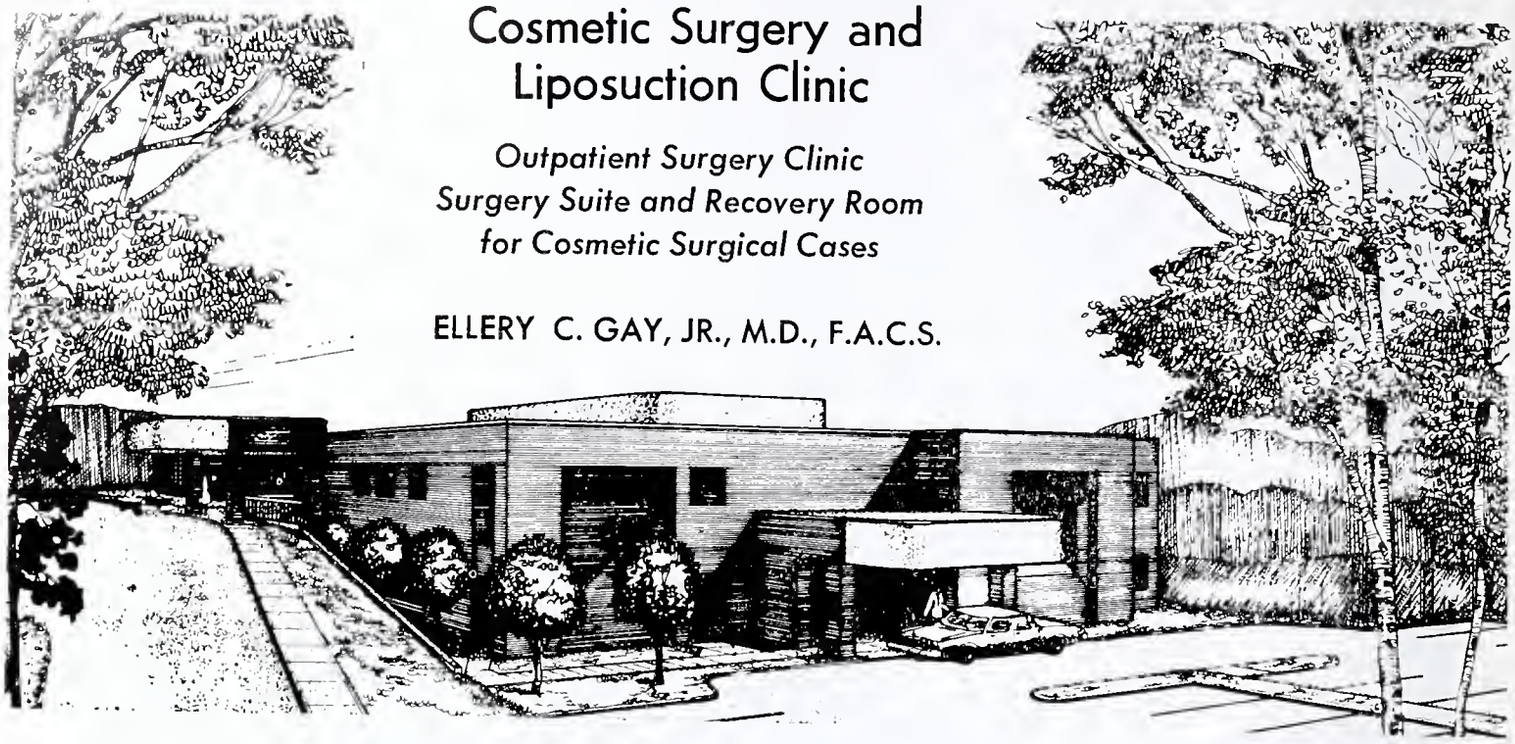
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efore prescribing, see complete prescribing information in SK&F CO. iterature or *PDR*. The following is a brief summary.

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This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

ontraindications: Concomitant use with other potassium-sparing agents uch as spironolactone or amiloride. Further use in anuria, progressive enal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum otassium. Hypersensitivity to either component or other sulfonamide-erived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, nless hypokalemia develops or dietary intake of potassium is markedly mpaired. If supplementary potassium is needed, potassium tablets hould not be used. Hyperkalemia can occur, and has been associated ith cardiac irregularities. It is more likely in the severely ill, with urine olume less than one liter/day, the elderly and diabetics with suspected r confirmed renal insufficiency. Periodically, serum K^+ levels should be etermined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires rompt additional therapy.** Thiazides cross the placental barrier and ppear in cord blood. Use in pregnancy requires weighing anticipated enefits against possible hazards, including fetal or neonatal jaundice, hrombocytopenia, other adverse reactions seen in adults. Thiazides ppear and triamterene may appear in breast milk. If their use is essential, he patient should stop nursing. Adequate information on use in children s not available. Sensitivity reactions may occur in patients with or with-ut a history of allergy or bronchial asthma. Possible exacerbation or ctivation of systemic lupus erythematosus has been reported with hiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of triamterene and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Angiotensin-converting enzyme (ACE) inhibitors can elevate serum potassium; use with caution with 'Dyazide'. Do periodic serum electrolyte determinations particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function. Thiazides may add to or potentiate the action of other antihypertensive drugs. Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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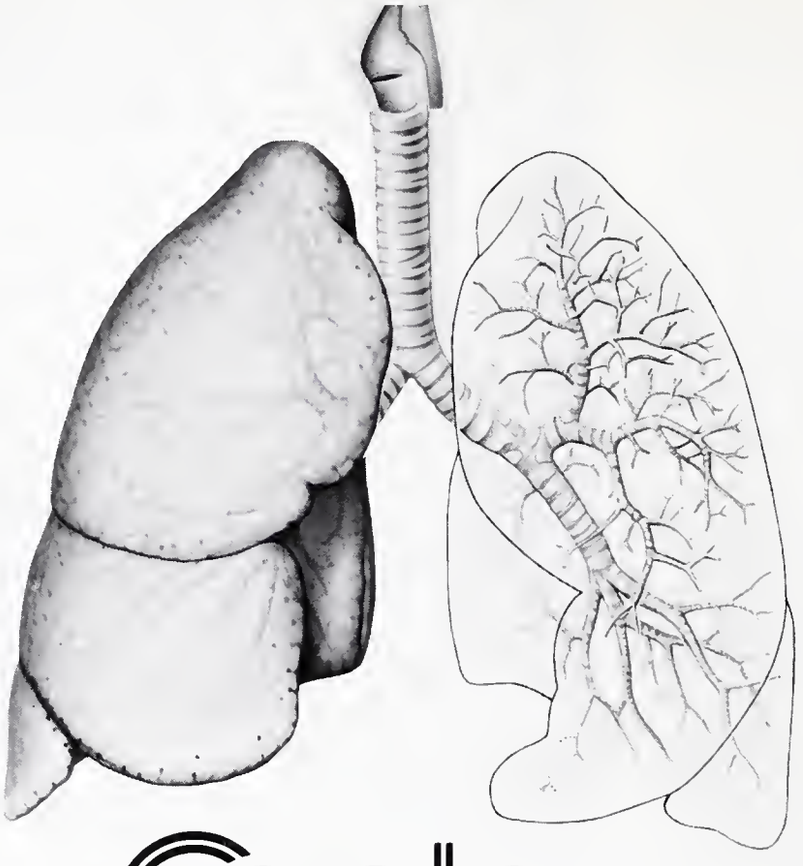
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Precautions:

- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- In renal impairment, safe dosage of Ceclor may be lower than that usually recommended. Ceclor should be administered with caution in such patients.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

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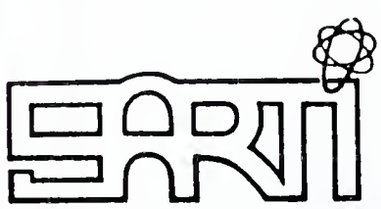
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Inaugural Address

Ken Lilly

Something old, something new, something borrowed, something blue is an old saying that is usually associated with weddings. It's also been a part of our culture for a long time and has even been the title of a country and western song.

When I use this title, one might immediately think that I am talking about the move of the headquarters office from Fort Smith to Little Rock. However, this will not be my focus. Despite a few transitional problems and my continued personal feelings that if we had the office in New York City we could still carry on 90% of our business, I doubt that we will see much change in the way we do things once the new staff learns their roles and begins to function after they have all the duties here in Little Rock.

I am using the title so we can remember a few things that have become important. First, let's talk about something old. Let's talk about the art of medicine. We've been through a mind-boggling expansion of the science of medicine and have selected our students for medical school from the elite intelligentsia. This has downplayed common sense and intuition as usable modalities for the practice of medicine. A large group of people have tried to practice medicine for a long time now without actually doing some of the things that we do when we're practicing the art of medicine. This has resulted in some things happening which are not very good for medicine. There have been a group of people who have specialized in small facets of care and are, in fact, becoming practicing entities to themselves. To mention a few: nurses, pharmacists, physical therapists and pulmonary therapists, gadget therapists, and so forth. The list grows daily. This group of people who largely do their thing without the supervision of "the doctor", do it often without even wishing to have any input from "the doctor"; and, so, it makes it a little bit of a problem for medicine to be practiced like you would like to have it—the art of medicine being what it should.

Secondly, and on the other hand, there has been an invasion of traditional medical discipline by chiropractors, the clergy, bureaucrats, and even lay persons.

While all this diversity is not in its entirety recapturable, I believe that a return to the practice of the art of medicine will go a long way to provide proper direction to patients in the healing of their ills.

We have been focusing on economic problems. Now, I recognize that a serious problem does exist when it *costs* a private physician real dollars for the privilege of caring for a government subsidized patient instead of giving it away as we did in the days before Title XVIII and XIX. The entrance of too many physicians into the system has further squeezed the medical dollar for individual practitioners. But these problems need to be downplayed as much as possible in order to recapture the good old American doctor's place in the hearts of people needing help.

I think the first and foremost needed thing is to spend more time with the patient to find out not only what his problem is, but also why he decided to have it treated now, and what family, job or social factors caused him to seek the help in the first place.

I recently reviewed the top 20 drugs that I used to treat patients 30 years ago. Only two remain—penicillin and terramycin. Most of the rest are not even available—some are no longer even manufactured. Does this mean that those drugs were not effective? Not at all. This means that I believed that the drugs would help and communicated this to the patient and the patient, in turn, believed they would help and his body was allowed to heal on its own.

At the age of 35, I felt that half of the patients I treated were *brought in* by psychological causes or with psychological overlay. Now I believe that 85 or 90% of what I treat started with the recognition of what part the psyche played in the healing process, if not the etiology of the problem, in the first place.

So I do plead for something old. I plead for return to the practice of the art of medicine.

Number two, something new . . . Do we need something new? Whether we like it or not, this is a dynamic profession and change is a part of it. Why not get on the leading edge instead of being pushed along by bureaucrats? I believe we need a new and fresh approach to the providing of catastrophic health care. Catastrophic due to the fact that it completely wipes out people and the resources of people and, for that matter, programs which might otherwise succeed are also placed in jeopardy because of the heavy burdens.

Let's create a new trust fund that would pay all the medical expenses for the last year of one's life. For those family members whose expenses are greater than the whole family's annual income, this would be a great boon. And also we can add a generic-type funeral which will get the job done with dignity without exorbitant cost.

This can be funded from several sources. First, from a special estate tax; second, from children's income of the parents who are terminal; and third, from the resources of those who wish to order ultimate types of care when simple pain relief would be plenty adequate (This is the California-cousin syndrome.)

Since this is a new concept which needs lots of development—all the brain trust could be included in making up the way that we would present this new way of handling the end time of the person. The professionals could input; we didn't have the opportunity to input when they started Medicare. Even the most aggressive bureaucrats could have a picnic with something as broad as this.

Since it is not normal for people in general to plan for this event, just as they do not plan to be sick or to be treated, a structural plan to pay for it would provide the services needed and control costs.

In other words, when a person dies, the last year of one's medical and funeral expenses would be paid by this trust fund, retrospectively, thus relieving the other trust funds and private funds of this financial burden.

I think that this would start a two-tiered system. I think that many of us would refuse to have this generic funeral, and we would begin to find out how we could obtain a little better services for ourselves, just as we do when we don't like the school system; we send our kids to a private school, and it would certainly be a subtle change in the way that we do it. And I must confess that when I was preparing this, I thought about my preacher friends, one of whom was making a sermon, getting it ready for Sunday morning, and he said in it "weak point, holler loud", so I hope I have hollered loud on this particular weak point.

Next, let's talk about something borrowed. Liability insurance has become a national problem. Ten years ago, this problem was disguised as "malpractice insurance", what we now recognize to be professional liability insurance. Amendment 58 was to be our answer and we doubled our annual income gearing up to amend the Arkansas Constitution. In a judicial flank move, our efforts were thwarted. Then we had to settle down to just the usual old types of things we were doing, but we were saved by the entrance of API, who became a supplier when we only had one supplier in the state. And the costs are now escalating again and even worse nationally. First, it was on the West Coast but they got their problems solved and now it's on the East Coast. The climate is much different this time, however. Small businesses, pharmacists, nurses, and lay midwives cannot get liability insurance at an affordable cost. They have not been characterized (as we were) as being "rich doctors" and, therefore, with their backs against the wall, they are leading out to try to get some relief for this particular problem. Let's just simply raise our hands and say "count us in". *If you please, we can borrow their influence.* The repair of this problem is taking a dual course. At first we're hearing about tort reform and the second is judicial change. With the introduction of legislation in the Senate of the United States by Senator Hatch, there is a bill for tort reform which will probably set us on a new national approach for long-standing problems which we have been discussing.

Basically, this plan would cap punitive damages and attorney's fees and structure the payments to the patients so that it would be very meaningful and beneficial to the ones who have been damaged. It does not address the cost shifting by insurance companies (which probably has the strongest lobby that we have to deal with) and it would not even do anything about the pressure of large numbers of "trial lawyers" who are elected into the legislative system. But we must join forces with the people I mentioned above to try to bring about tort reform. And in Arkansas, it most likely will take a constitutional amendment as we started to do ten or twelve years ago, if we are really wanting to make some substantial changes.

Secondly, it is time to seek out and support men for judgeships who are aware of the severe problems which are coming, and at least have a sympathetic ear to the above mentioned liability problems. We have supported governors, congressmen, senators, and recently even the legislators of the State of Arkansas in their election problems and we've had some friendly hearing about some of our needs and difficulties. It's time now to have some subtle influence on the judiciary. We must be careful, however, because judges who have gotten their judgeship with a lot of help from people, tend to disqualify themselves when they have to hear a case involving people who have helped them. We must be very careful about how we approach this, but it is possible to seek out men and support men who do see things the way that we seem to think that they are.

Fourthly, let's talk about something blue. Blue is a special color in our language. Sometimes it is used to connote an attribute of loyalty. Other times it is used to connote a symptom such as depression. In the sense I use the word, there is a very positive note, such as "blue sky".

We are now ending our transition as far as our Society is concerned and while there is some sadness in the real loss of 70 plus years of experience and warm, knowledgeable people, there is a new beginning with an eager staff in a new building in the center of influence of our state. I am really excited about our future. I'd like to lead you as enthusiastically as I can to complete our move and move on into the future. Let's join together to overcome the apathy that is preventing us from solving many of our problems. And I do thank you.



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PROCEEDINGS

110th Annual Session

ARKANSAS MEDICAL SOCIETY

Little Rock

April 17-20, 1986

FIRST SESSION
HOUSE OF DELEGATES
April 17, 1986

Speaker of the House Amail Chudy called the House of Delegates to order at 1:00 p.m. on Thursday, April 17th, at the 110th Annual Meeting of the Arkansas Medical Society. He called upon Frank Morgan to give the invocation.

Members of the Society seated as delegates and officers present at the meeting of the House were: ARKANSAS, Dennis Yelvington; BAXTER, Robert Baker; BOONE, H. V. Kirby; CARROLL, Oliver Wallace; CHICOT, Dan Berry; CLEBURNE, Thomas L. Eans; COLUMBIA, John Ruff; CRAIGHEAD-POINSETT, James Sanders, Don Vollman, Steve Woodruff; CRAWFORD, Millard C. Edds; CRITTENDEN, C. Herbert Taylor; DALLAS, Mark A. Floyd; FAULKNER, J. J. Magie; FRANKLIN, David Gibbons; GARLAND, William R. Mashburn, Gene Shelby, Brenda Powell; GREENE-CLAY, J. Darrell Bonner; HEMPSTEAD, James Branch; JEFFERSON, John Crenshaw, George Roberson, Bryan L. Burke, I. S. Reid; LAWRENCE, Ralph Joseph; LOGAN, Sanford E. Hutson; LONOKE, Jerry C. Chapman; MEDICAL STUDENT, Martin Porter; MILLER, Paul Meredith; MISSISSIPPI, Eldon Fairley; MONROE, Jon R. Ewing; PHILLIPS, Robert Miller; POLK, David D. Fried; POPE, Frank Lawrence; PULASKI, Carlos Araoz, David Barclay, Warren Boop, Paul Cornell, Gregory Dwyer, William Golden, Edwin Hankins, Fred Henker, Jay Brainard, Jerry Mann, Reid Henry, Mayne Parker, Charles Rodgers, Jerry Holton, Bruce Schratz, Robert Shannon, James McDonald, Douglas Horan; SALINE, Marvin Kirk; SEBASTIAN, A. C. Bradford, Wendell Ross, David Busby; ST. FRANCIS, Sam McGuire; UNION, Raymond N. Bowman, Durwood Flournoy; VAN BUREN, John A. Hall; YELL, James L. Maupin; COUNCILORS, Jim E. Lytle, John Hestir, Lloyd G. Langston, George Warren, F. E. Joyce, Frank E. Morgan, Charles W. Logan, Richard N. Pearson, W. P. Phillips, J. Larry Lawson, L. J. P. Bell, Paul A. Wallick, Cal R. Sanders, James D. Armstrong, Ronald J. Bracken, William N. Jones, Robert H. Langston, and Morton Wilson; PRESIDENT, John P. Burge; PRESIDENT ELECT, Ken Lilly; FIRST VICE PRESIDENT, Milton Deneke; SPEAKER OF THE HOUSE, Amail Chudy; VICE SPEAKER OF THE HOUSE, Sybil R. Hart; SECRETARY, James R. Weber; TREASURER, James M. Kolb, Jr., and PAST PRESIDENTS, Joe Verser, C. R. Ellis, Joseph Norton, Ben N. Saltzman, A. S. Koenig, Jr., W. Payton Kolb, Purcell Smith, Jr., Asa A. Crow, and Charles F. Wilkins, Jr.

Vice Speaker Sybil Hart introduced Mrs. W. Arnold (Anne) Pitchford of El Paso, Texas, the Director of the American Medical Association's Auxiliary. She greeted the House of Delegates on behalf of the 80,000 member auxiliary. Her message was in two parts, 1) to address the continued AMA needs on the part of the medical societies and 2) to share how deeply they are concerned about the current environment of medicine and to make you aware that the auxiliary wants to join you in meeting those challenges.

Mrs. Jerry (Ginny) Blaylock, President of the Arkansas Medical Society Auxiliary, reported on the progress over the past year using the theme, "Harmonies for Health". She stated that it is important, now more than ever, that medicine present a strong voice in America and Arkansas. She expressed the appreciation of the auxiliary members for the support the AMS members have given them and pledged to the physicians their best efforts in all future endeavors.

Mrs. Robert (Nita) Valentine, President-Elect of the Arkansas Medical Society Auxiliary reported on the increase of the Auxiliary over the past year and efforts being made to increase membership in the future. She also expressed the Auxiliary's appreciation of the spouse support throughout the year.

Speaker Chudy asked W. Payton Kolb to introduce our guest speaker, Dr. John H. Dawson of Seattle, Washington. Dr. Dawson is a member of the American Medical Association Board of Trustees. Dr. Dawson's speech is printed in this issue.

Dr. Joe Verser, Secretary of the State Medical Board, presented Drs. Frank Burton and Hugh Edward plaques for their combined 62 years of dedicated service as board members on the Arkansas State Medical Board.

Speaker Chudy recognized President John P. Burge for an address to the House.

* * * *

PRESIDENT'S ADDRESS

John P. Burge

Not all of you may be familiar with Garrison Keillor. He is a humorist who hosts a radio show called "A Prairie Home Companion" which airs every Saturday on National Public Radio. This is known as the "shy person's program". There is a segment on his show in which he gives a monologue about the happenings in a small mythical town in northern Minnesota called Lake Wobegone. Mr. Keillor has the unique ability of taking dull and mundane everyday occurrences and making them amusing and interesting. He begins every monologue with the phrase, "Well, it's been a quiet week in Lake Wobegone, my home town". He then proceeds to relate some events and happenings in a segment of society which is definitely *not* in the fast lane. Maybe because human nature itself can be entertaining; maybe because we see similarities between some of the segments and our own experiences, maybe the relaxed pace of his presentation is such that it catches our attention and holds it; maybe because we think something exciting has *got* to happen next, but never does; whatever the reason, Mr. Keillor can certainly be called the "master of the mundane".

A year ago when I assumed the Presidency of the Arkansas Medical Society, the comment was made to me on more than one occasion that since the legislature was not in session and since the move of the Society's headquarters to Little Rock had been settled and was now being implemented, it should be a relatively smooth and uneventful year. This would mean that I might find it difficult to find material to fill this time slot between Dr. Dawson's address and the presentations which are to follow. If imitation is the greatest form of compliment, I am sure Garrison won't mind if I plagiarize a little of his material to make this interval more bearable as we review the year that was. Well, its been a quiet year in Arkansas, my home state. In general, we started this year still basking in the warmth of a generally successful legislative session due to a combination of factors including the excellent work of Ken LaMastus, David Wroten, Mike Mitchell and Jim Weber, the accessibility provided in part by the State Legislative Fund, and the efforts of a large number of practicing physicians and their wives in the state. The call for unity by Immediate Past President Charles Wilkins was showing continued signs of progress. In spite of the efforts of an attorney from my own county, the Arkansas Medical Society *would* be able to retain its name and designation as *the* Arkansas Medical Society. The decision to move the Society's headquarters had been made with a minimum of bloodshed and the wheels had been set in motion to implement this move. The decision had been that the Medical Society would own the land, that a building would be purchased by a group of physicians in a limited partnership, and that the Medical Society would rent a portion of the building with an option to buy in 18 years. All was going swimmingly until the invitation was extended to invest in the limited partnership. It seems that some of the initial enthusiasm of potential investors had waned somewhat and there was a reluctance to pluck down the required capital for the venture. Had this fallen through, the Arkansas Medical Society stood to sustain a rather large loss of capital. So much for the uneventful year. However, as the old adage goes, "When the going gets tough,

HOUSE OF DELEGATES



Vice Speaker Sybil Hart of Blytheville and Speaker Amail Chudy of North Little Rock.



Mrs. Teresa Crisco, President, Arkansas State Society of the American Association of Medical Assistants received a contribution from President Burge.



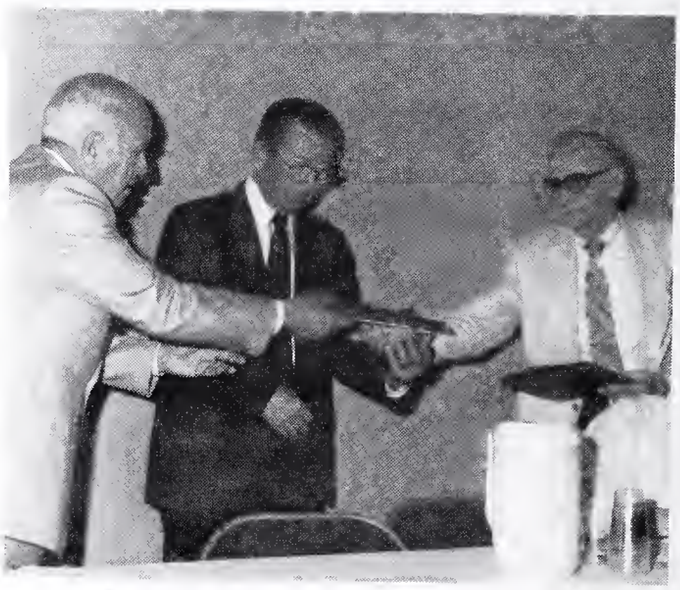
Mrs. W. Arnold Pitchford of El Paso, Texas, Director of the American Medical Association Auxiliary.



The members of the House of Delegates met on Thursday, April 17 and Sunday, April 21, to consider items of business of the Society.



Dr. Burge and Mrs. Deno (Gwen) Pappas presented grant money for the College of Medicine on behalf of AMA-ERF to Dean Peter Kohler.



Dr. Joe Verser presented service plaques to Dr. Hugh Edwards and Dr. Frank Burton.

HOUSE OF DELEGATES



Dr. John Burge of Lake Village, 1985-86 Society President.



Mrs. Jerry (Ginny) Blaylock of Jonesboro, President of the State Auxiliary.



Mrs. Frank (Margaret Ann) Morgan of North Little Rock, President of the Southern Medical Association Auxiliary.



Dr. John Dawson of Seattle, Washington, Member of the Board of Trustees, American Medical Association.



Mrs. Robert (Anita) Valentine, 1986-1987 President, State Auxiliary.

the tough get going", and largely through the efforts of the Building Committee made up of Lloyd Langston, Joe Norton, and Charlie Logan and particularly through the efforts of Jim Pappas, enough investors were found to fund the limited partnership. These physicians deserve your gratitude and a warm round of applause. With the funding completed, the ground breaking ceremony was accomplished on August 28th and we were off and running. The construction has been on schedule and we should be in the building next month.

With the impending retirement of Cliff Long as Executive Vice President, it became necessary to select a replacement. A Search Committee chaired by John Hestir worked long and hard, held multiple interviews, reviewed objectively the candidates' qualifications and recommended Ken LaMastus for the position. This was presented to the Council on November 17th and it was unanimously voted to extend the invitation to Ken. He accepted and will be assuming the position on a full-time basis May 1st.

During the past year the Society has attempted to come to grips with a number of problems which are being faced by its membership. One area of increasing concern to the practicing physician has been the proliferation in Arkansas in the past year of various alternate delivery and financing systems such as the HMOs, PPOs, and Primary Care Networks. This has been one of the more common subjects of discussion at the various meetings I have attended throughout the State. As of this morning, there were twelve alternate delivery and financing systems in some stage of development in Arkansas. Recognizing that no single form of health care delivery is necessarily suited for all patients or all physicians, the Arkansas Medical Society has attempted to assume an *educational role* for the physicians in our State. In July, the Council instructed Mike Mitchell, legal council for the Society, to draw some general guidelines for contractual arrangements for the alternate delivery and financing systems. In December, the Society hosted a seminar designed to acquaint physicians with all aspects of the various alternate delivery and financing systems. This was not promotional but strictly educational, the highlight being a discussion by a California attorney specializing in contracts. This seminar was well attended and excellent. Most of the credit goes to Ken LaMastus and David Wroten for putting this seminar together.

Another sphere of activity has been that of medical liability. In August, we received a request from Mr. Winslow Drummond, who is President of the Arkansas Trial Lawyer's Association, for permission to address the Council. This was granted and he spoke to the Council on September 22nd. The contents of his talk were published in the Journal. Following this he extended an invitation to representatives of the Medical Society to speak at their annual meeting of the Arkansas Trial Lawyer's Association. In February, a delegation consisting of Larry Lawson, Charles Wilkins and myself addressed this meeting. Our reception was cordial. I wish I could state that we made many converts but such would not seem to be the case. Nonetheless, it was a beginning and hopefully some common ground can be found to deal with the liability problem. Incidentally, the defense attorneys have also been very interested in meeting with us, and arrangements are being made at this time to meet with that group. As you are no doubt aware, there will be a session on medical liability during this meeting with representatives of the trial lawyers, defense lawyers, and the insurance companies participating.

Another subject which inevitably arose at the meetings I attended is one about which most of us have opinions based on personal experience. This is the PRO. It is a subject that does not lend itself well to neutrality. Because of the frustration expressed by the physicians being reviewed, the Medical Services Review Committee has agreed to review cases submitted by physicians who feel they have legitimate disagreements with the findings of the PRO. I believe this can only be an interim measure. Attempts are being made at the national level to repeal the PRO law but until such time, it is imperative that we keep the review process, as much as possible, in the hands of practicing physicians. I would venture to say that at the present time, not only most of those being reviewed, but a significant number of the reviewers, have expressed concern with many of the policies and precepts of the PRO and the direction in which they are moving .

Other attempts are being made to update Medicaid fees particularly for cognitive services, since physicians' fees under Medicaid have not been updated since 1977.

This may give you a thumbnail sketch of some of the spheres of activity of the Medical Society during the past year.

One of the effects I have noted that this office has on an individual, is an alteration of his reading habits. Time was when I picked up the latest issue of a journal such as *The New England Journal of Medicine* and the lead article, which might be somewhat to the effect of, "The significance of serum 2-2-4 trihydroxytransfigurase levels in male transvestites on a limited budget" would demand my immediate perusal and consumption driven by the loftiest motives and the demands of academic excellence. Now, however, I find that my attention is turned first to sections such as "Sounding Board" and editorial sections; to the writings of such as Eli Ginsburg, George Lundberg, or Lester Thurow. One such article by Eli Ginsberg in the *Journal of the American Medical Association* last May was labeled, "What Lies Ahead for Physicians: One Economist's View". In it, Dr. Ginsberg made some disturbing predictions about the future of health care given the background of current trends. He laid the burden of responsibility of altering these trends directly in the lap of the medical profession. A year ago, in my inaugural speech, I expressed my concern about the effects being produced by cost containment measures, the growth of bottom line health care, the growing physician surplus, the medical-legal climate, the prospective payment system and the alternate delivery and financing systems on quality of and access to medical care. I was then, and still am, concerned about these effects of our relationship with our patients and our fellow physicians.

In May of last year, we got our act together and took it on the road. Ken LaMastus, David Wroten, and myself, and frequently my wife Eleanor, began visiting as many county society, councilor district and medical staff meetings as possible. This proved to be a learning experience to me. It was gratifying to know that the majority of practicing physicians shared my concern. Certainly they were concerned about the economic effects of the above trends on themselves and their local hospitals, but they were also genuinely concerned about their patients and their access to medical care. They were still patient advocates. We still have the tools and the wherewithal to control the future direction of medicine.

Never has there been such fertile ground for tort reform as exists now given the national liability crisis which extends beyond the realm of just professional liability but also involves businesses, banks, city governments, etc. We are no longer alone in our fight.

It is safe to assume that the federal government, through the PRO, will make every attempt to increase its control over the practice of medicine and it will take our best efforts to maintain our autonomy.

It is imperative that physicians considering entry into one of the many alternate delivery and financing systems be knowledgeable of all the ramifications including the effects on his patients and his fellow physicians. If external adversity of definition leads to an exponential increase in internal unity, we should be well on our way toward a unified profession.

Garrison Keillor always closed his monologue with the following quote, "Well, that's the news from Lake Wobegone where all the women are strong, the men good looking and the children above average". There is an inherent danger in overgeneralization since there is always some subsegment of any group that doesn't fit the pattern. However, in this year I have become much better acquainted with those people who make up this Arkansas Medical Society; and so if I may be permitted to say, that's the news from Arkansas where all the physicians are caring, the wives supportive and the patients appreciative.

I have some genuine regrets about this year coming to a close. It means that on weekends I will have to climb back on that mower again. It means that I'll have to clean up my study with its unique four corner filing system. But I could not end it without first expressing my extreme appreciation to the staffs at the Fort Smith and Little Rock offices and in particular, Leah, Ken and David for all their help and direction and to Eleanor and my family. And finally, to express my appreciation to you, the members of the Arkansas Medical Society, for the privilege of representing you for this past year. Since Eleanor is sitting in the room, I will say it is the *second* greatest thrill in my lifetime. Napoleon Bonaparte has been quoted as saying, "in every foot soldier's knapsack is a leader's baton". I want to thank you for allowing me to carry that baton this year.

* * * *

President Burge asked a representative of the University of Arkansas College of Medicine and Mrs. Gwen Pappas representing the Auxiliary to come forward for a presentation on behalf of the American Medical Association Education and Research Foundation.

President Burge expressed appreciation to the members of the Auxiliary for their hard work on behalf of AMA-ERF. Two checks were presented to the University of Arkansas College of Medicine to be used as grants for the current year. The first check for $16,269.32 is intended for the pursuit of excellence in the medical school's program and is not restricted in use. The second check for $7,393 is restricted to the school's program of financial assistance to students.

President Burge asked Teresa Crisco, President of the Arkansas State Society of the American Association of Medical Assistants, to come forward to receive a check for $100.00 to be used in their state association. Mrs. Crisco thanked the physicians for their support and asked that they visit their booth in the exhibit hall.

Leah Richmond reported a total of 95 registered delegates for the first House of Delegates meeting.

The minutes of the 109th Annual Session were approved and adopted as printed in the June 1985 issue of *The Journal of the Arkansas Medical Society* by a motion made and seconded from the floor.

Chairman Lawson gave a supplemental report on actions of the March 16th Council meeting.

* * * *

SUPPLEMENTAL REPORT OF THE COUNCIL

The Council met on Sunday, March 16, 1986, in the Camelot Inn in Little Rock and conducted business as follows:

The chairman welcomed the new councilor from the Seventh District, Dr. Thomas Hollis.

Dr. Harry Ward, Chancellor of the University of Arkansas for Medical Sciences, addressed the Council on "Clinical Programs at the University of Arkansas for Medical Sciences, Current and Future".

The Council transacted the following business:

1. The Council approved minutes of the January 19th meeting.
2. The Council approved actions of the Executive Committee on January 22nd and February 3rd.
3. President Burge reported to the Council on the presentations made at the February meeting of the Arkansas Trial Lawyers Association.
4. Dr. Morton Wilson reported to the Council for those attending the AMA Leadership Conference.
5. Dr. Lilly spoke briefly urging participation in the Arkansas Medical Society Political Action Committee and the State Legislative Fund.
6. The Council voted to move Society bank accounts at an appropriate time from Fort Smith to Little Rock institutions. Dr. Bell questioned the selection of the institutions; Chairman Lawson advised that now the only question was authorization to transfer to Little Rock and that the selection of institutions could probably be done at one of the Annual Session meetings. Dr. Bell expressed the opinion that the selection of institutions should be addressed by the Council before action is taken to transfer the funds.
7. Dr. Ronald Bracken, speaking for the Committee on Public Relations, discussed the drive for blood donors to be conducted during the annual meeting and encouraged participation of the membership.
8. Dr. Lloyd Langston, Chairman of the Building Committee, reported that work was progressing rapidly on the new headquarters building. He indicated that he hoped the building would be complete enough by the time of the Annual Session to take members to the site by bus to look over the building.
9. The Council voted to make the following appointments for the Seventh Councilor District Professional Relations Committee:
   Dr. Bruce White of Malvern to replace Dr. C. F. Peters
   Dr. Robert Lewis of Hot Springs to replace Dr. Thomas Durham
   Dr. Robert McCrary of Hot Springs to be named the new chairman
10. Dr. Lloyd Langston moved that the Council go on record as opposing pre-discharge certification for hospitalized Medicare patients, not

HOUSE OF DELEGATES



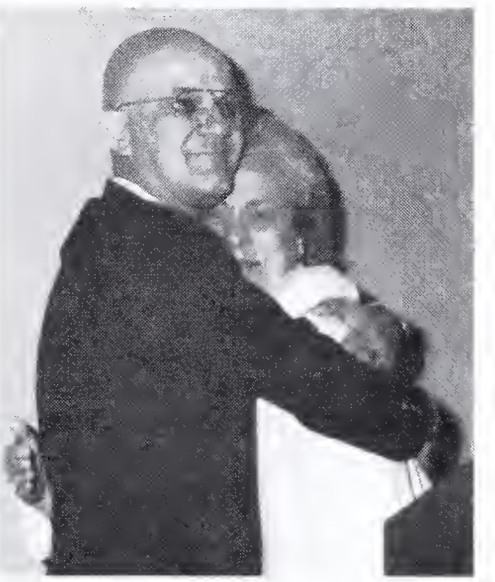
Immediate Past President John Burge presented a gift to Dr. C. C. Long who retired as Executive Vice President.



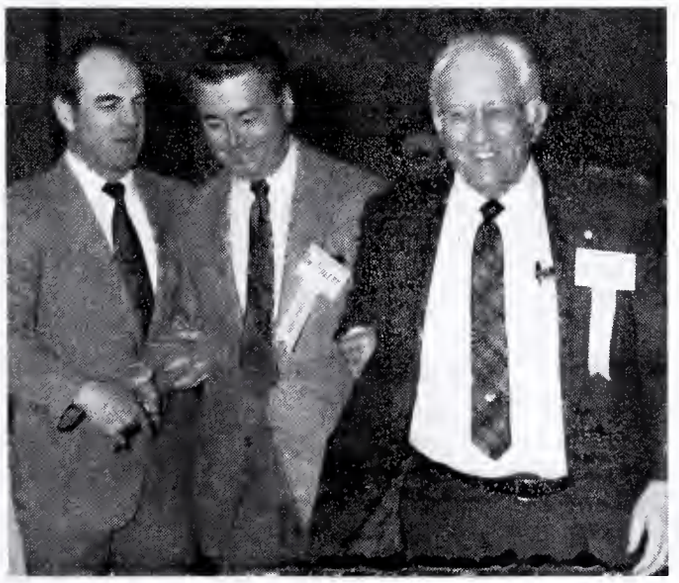
Ken LaMastus, Executive Vice President designate, addressed the House of Delegates.



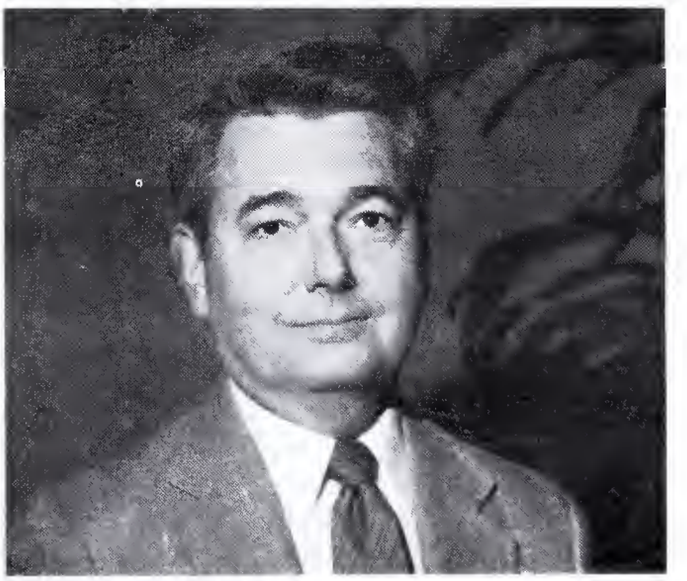
Winslow Drummond, President of the Arkansas Trial Lawyers Association; William Eldredge, Jr., Defense Attorney; and Michael S. Mullen, President, The Medical Protective Company; Panel Program on Professional Liability.



A farewell hug from Speaker Chudy to Leah Richmond who retired as Associate Executive Vice President.



William Jones and W. Payton Kolb, Jr. escorted President-Elect W. Ray Jouett to the podium.



W. Ray Jouett of North Little Rock, 1986-1987 Arkansas Medical Society President Elect.

AROUND THE CONVENTION



Dr. and Mrs. Ken Lilly of Fort Smith. Dr. Lilly is the 1986-1987 President of the Arkansas Medical Society.



Dr. and Mrs. Ray Jouett of Little Rock. Dr. Jouett is the 1986-1987 President-Elect of the Arkansas Medical Society.



Dr. and Mrs. J. Larry Lawson of Paragould. Dr. Lawson is Chairman of the Council of the Arkansas Medical Society.



Dr. and Mrs. John Burge of Lake Village. Dr. Burge was the 1985-1986 President of the Arkansas Medical Society.

AROUND THE CONVENTION



Dr. Denton Cooley, Surgeon-in-Chief, St. Luke's Hospital, Houston, Texas.



Senator Dale Bumpers was the featured speaker at the second annual Shuffield Lecture.



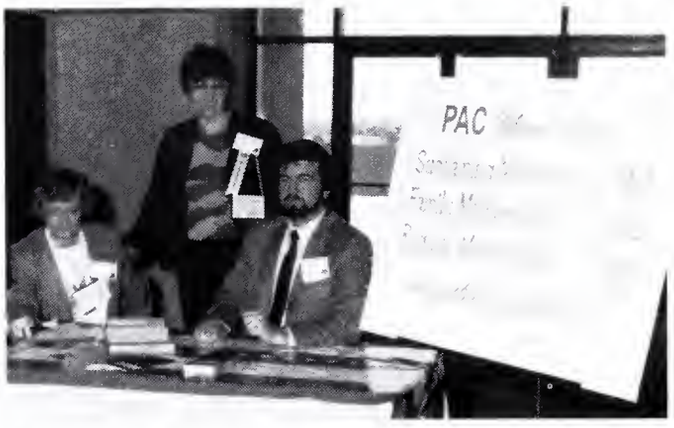
Senator Dale Bumpers, Mrs. Elvin (Ada) Shuffield and Dr. Pat Phillips.



Miss Linda Shuffield, Mrs. Elvin (Ada) Shuffield and Mrs. Carolyn Wright, wife and daughters of the late Dr. Elvin Shuffield.



Dr. Pat Phillips, Senator Dale Bumpers, Mrs. Ken Lilly and Dr. Paul Wallick.



Mrs. C. Lynn (Margaret) Harris of Texarkana, Mrs. C. Herbert (Ramona) Taylor, Jr., Memphis and Dr. Roger Cagle, Paragould.



Reference Committee #1 at work. Lloyd Langston of Pine Bluff, Chairman; Fred Henker, Little Rock; Cal R. Sanders, Camden; Wendell Ross, Fort Smith; and Mitzi Washington, Little Rock (Medical Student Observer).



United States Senator Dale Bumpers and Dr. Pat Phillips of Fort Smith.

because the PRO wants it but because of resentment over the fact that his patient could call someone and get authorization to remain 48 hours after he felt the patient was ready for discharge. Upon question by Chairman Lawson, it was stated that the opposition should be in the form of letters to the Arkansas Congressional Delegation. The Council so voted; there was one "no" vote.

11. Dr. Jouett requested reconsideration of Council action of November 17th concerning membership representation on the Council. The vote in November was:

    to use the councilor district's active, dues-paid and life membership count as of December 31 as the basis for councilor representation.

    Dr. Jouett proposed that the words "dues-paid" be stricken, so that the district's active and life members would count toward councilor representation. The second on Dr. Jouett's motion was by Dr. Purdy; the motion was approved by the Council.

12. The Council voted to appoint an ad hoc committee with an appropriate chairman to completely review the Constitution and Bylaws with the idea that the document be rewritten to take out the mandates and bring it in line with current practices.

13. The Council accepted the report of audit of the Society's records as of December 31, 1985, as presented.

14. The Council went into executive session to consider a report from the Budget Committee.

    Minutes of the Executive Session are as follows: Dr. Lloyd Langston presented financial projections for the Society through 1987. The projections point out the need for a minimal of dues of $300. This will be $25 less than dues for 1986. Dr. Langston emphasized that the Society needs to utilize more non-dues sources of income and make additional efforts at increasing membership. A motion was approved to recommend that a permanent State dues of $300 be implemented beginning in 1987.

* * * *

Two reports which were not published in the March issue of the Journal are Impaired Physicians Committee, Aubrey Smith, Chairman, and the Union County Medical Society's Resolution concerning liaison with the Arkansas Association of Defense Counsels. (These reports follow the first House of Delegates report.) Dr. Chudy asked for discussion on the reports. There were none. He then indicated the reports included in the March 16th minutes would be referred to Reference Committee #2 and that the Impaired Physicians Committee report would be referred to Reference Committee #1.

Speaker Chudy asked that A. S. Koenig, Jr., present the report of the Constitutional Revisions Committee (printed in March 1986 Journal). After reading his report, Dr. Koenig asked for questions. After a brief question and answer session the report was referred to Reference Committee #2. Dr. Koenig also read the Proposed Revisions of the Bylaws as was approved on the first reading at the 1985 annual meeting. The proposal is being presented for final consideration at this meeting.

Final consideration of proposed revision of Bylaws are:

Bylaws, Chapter V, Election of Officers.

Section 1. Nominating Committee

Delete: (A) Prior to adjournment of the first meeting of the House of Delegates at each Annual Session, the delegates from the component societies of each councilor district shall meet, the councilor not subject to re-election acting as chairman, and select one delegate from each district to form a committee on nominations. This committee shall consist of ten delegates, one from each councilor district. It shall meet and organize by selecting a chairman and a secretary.

Substitute: (A) The Nominating Committee shall consist of ten members of the House of Delegates, one from each councilor district. Each member of the Committee shall serve for a term of two years, the terms being staggered so that odd and even numbered councilor district representatives shall be replaced on alternate years. In the first year following adoption of this amendment, the odd numbered council district appointees shall serve for one year, the even numbered councilor district appointees shall serve for two years. The names of the delegates appointed to the nominating committee shall

be submitted by the senior councilors in the districts to the executive vice president no later than thirty days prior to the annual meeting. Following the first meeting of the House of Delegates at the Annual Session, the nominating committee shall meet and organize by selecting a chairman and a secretary.

The following portion of the present section (A) would remain unchanged:

It shall be the duty of this committee to consult with members of the Society and to hold one or more meetings at which time the best interest of the Society and of the profession of the State for the ensuing year shall be carefully considered. The committee shall report the result of its deliberations to the headquarters office no later than February 1 in the shape of a ticket containing the names of two or more members for the office of president-elect and of one member for each of the other offices to be filled at the Annual Session. No two candidates for president-elect shall be named from the same county.

A. S. Koenig made a motion that the revisions be approved and adopted as read. A second came from the floor and it passed unanimously.

Speaker Chudy indicated the Union County Medical Society Resolution concerning liaison with the Arkansas Association of Defense Counsel be referred to Reference Committee #1.

Asa Crow asked for permission to speak before the House of Delegates. He encouraged each member of the Arkansas Medical Society to support the Arkansas State Legislative Fund. This fund is used to support candidates for the Arkansas legislature who support our cause or at least listen to our viewpoints.

Vice Speaker Sybil Hart announced the location of the American Red Cross Blood Mobile in the back of the Exhibit Hall on Thursday and Friday for the convenience of the physicians to donate blood. The reason for this push is to help dispel the rumor AIDS may be contracted through donating blood.

Speaker Chudy announced a brief recess on the House floor for the councilor district elections of members to the 1987-88 nominating committee. The districts, nominated members are as follows:

FIRST DISTRICT—Richard Martin, Paragould—Term Expires 1987

SECOND DISTRICT—Michael Moody, Salem—Term Expires 1988

THIRD DISTRICT—Sam McGuire, Forrest City—Term Expires 1987

FOURTH DISTRICT—John Crenshaw, Pine Bluff—Term Expires 1988

FIFTH DISTRICT—Cal Sanders, Camden—Term Expires 1987

SIXTH DISTRICT—Jim Armstrong, Ashdown—Term Expires 1988

SEVENTH DISTRICT—Brenda Powell, Hot Springs—Term Expires 1987

EIGHTH DISTRICT—Charles Logan, Little Rock—Term Expires 1988

NINTH DISTRICT—Robert Langston, Harrison—Term Expires 1987

TENTH DISTRICT—Morton Wilson, Fort Smith—Term Expires 1988

Charles Logan was designated as Chairman.

The House of Delegates adjourned until 10:00 a.m. Sunday morning.

* * * *

REPORT OF THE IMPAIRED PHYSICIANS COMMITTEE

Aubrey C. Smith, M.D., Chairman

The Committee for Impaired Physicians has continued to function throughout the 1985 year, having intervened on four physicians and seeing that the physicians returned to successful practice. The program continues essentially utilizing referrals from other physicians and family members with intervention taking place in the manner prescribed by Dr. Douglas Talbott, who is the Director of the Georgia Impaired Physicians Program.

From an educational standpoint, committee members were present at Psychiatric Grand Rounds at the University Medical Center (Drs. A. C. Smith and Glen Baker) to present a program about Arkansas impaired physicians to interested parties among the staff and students at the medical center. A close liaison between the Impaired Physicians Committee and the Arkansas State Medical Board has been encouraged and the committee chairman, A. C. Smith, was invited to hear Dr. Douglas Talbott present his Impaired Physicians Program to the State Medical Board in December 1985.

It is still a consensus of committee members that a part-time, executive-type secretary should be considered as early as possible. Hopefully, this can be dealt with at the Medical Society meeting this year.

* * * *

UNION COUNTY MEDICAL SOCIETY RESOLUTION CONCERNING LIAISON WITH THE ARKANSAS ASSOCIATION OF DEFENSE COUNSELS

WHEREAS, the Arkansas Association of Defense Counsels represent a group of attorneys who regularly defend physicians against professional liability claims, and

WHEREAS, their knowledge of judicial practices and legislative strategies would be a valuable asset to the Arkansas Medical Society's legislative program, Now Therefore Be It

RESOLVED, that the Executive Committee of the Council of the Arkansas Medical Society take the necessary steps to develop a liaison with the Arkansas Association of Defense Counsels.

ADDRESS

By

JOHN H. DAWSON, M.D.

American Medical Association Board of Trustees

For the Arkansas Medical Society

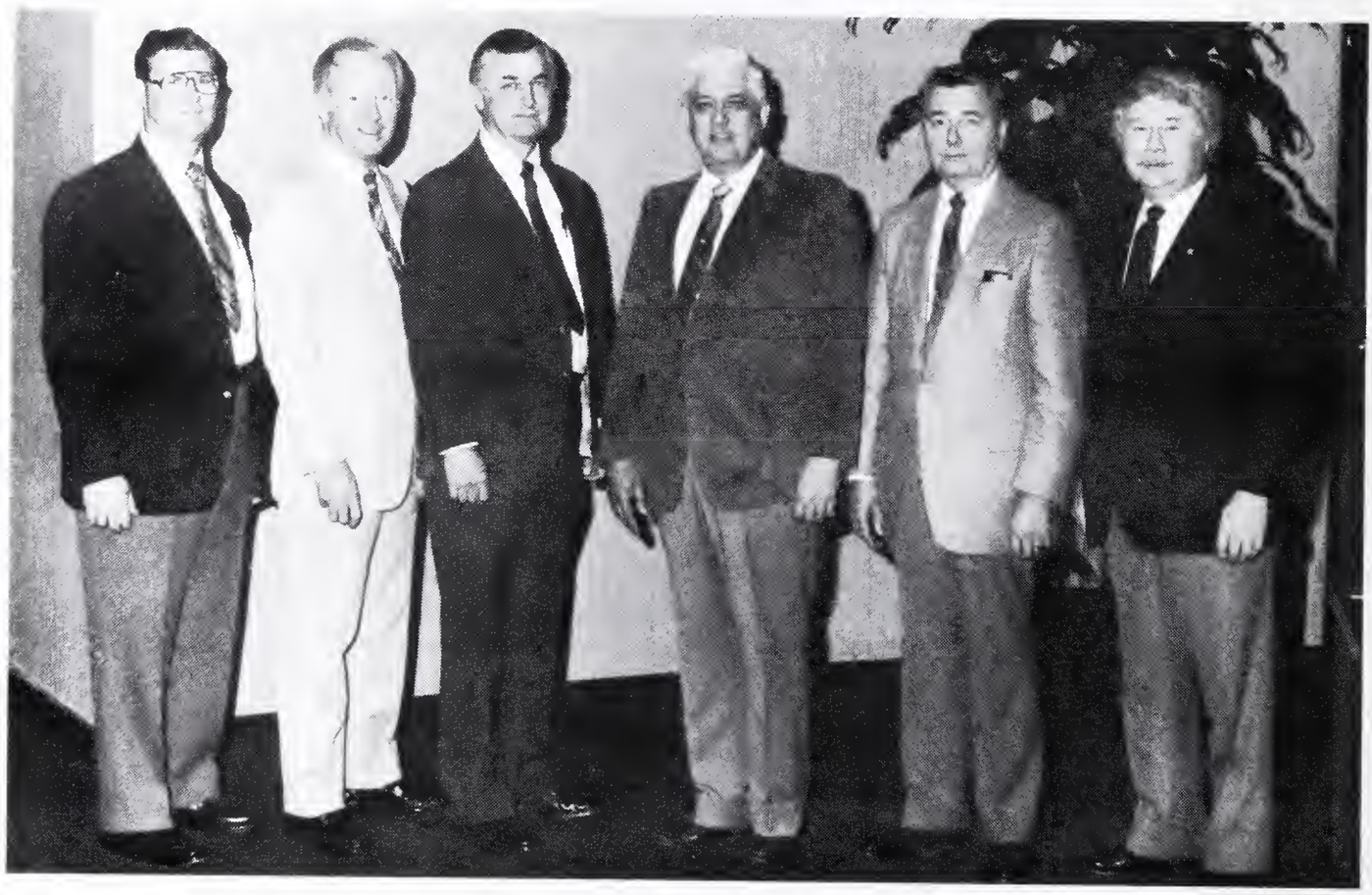
Little Rock, Arkansas

My reason for being with you is to represent the AMA and to express greetings to you from the AMA.

On the way here, while on the airplane, I was reading a book because I happen to be a civil war buff. I have been a buff for that thing for a long time. I have been reading a book called *The Final Fortress.* It's about Vicksburg in 1862 until the time it finally fell. I was reflecting as I looked at the similarities of this area and Iowa and it really did remind me of my basic reason for going into medicine. I have a father-in-law who is now 92, retired, and lives on Mercer Island just outside Seattle. I can remember when he and his wife were discussing and being concerned about the fact that he was going to have to change his office call fees from $1.00 to $2.00. You can't help but reflect on the cataclysmic changes that have occurred and that are occurring. I put this together with the book I was reading, *The Final Fortress,* for protection of the medical care system that we have known, worked under and enjoyed and are trying to preserve. This is like preaching to the choir—coming to talk to delegates who are here. You are here because you are knowledgeable, concerned, involved and anxious to deal with issues. I am sure you feel as most of us do, a sense of frustration, difficulty in confronting the many various things that have changed and are changing with bewildering repetition. Yet, as Isreal once said, "It is the heart of the people for which all of their happiness and powers as a state is derived". There is a tendency to feel assailed, assaulted and deceived by those who are critics of medicine. Yet the changes that have occurred for the betterment of the health of the people of our country are obvious.

Let's take just one fact, the fact that at the turn of the century the life expectancy of a person born in the United States was 47. Up to five years ago those numbers were reversed and life expectancy was 74 and now it is even higher. It has been bought for a price both in research time and effort and also in dollars. Of course it is the dollars that have brought the changes that are occurring. Not too long ago in my capacity as a Commissioner of the Joint Accreditation of Hospitals, I had the opportunity of listening to Monty DuVall, former Under Secretary of Health. He expressed his feelings as to why these changes have occurred. He gave five reasons. One was the demythologization of medicine, one was that medicine had historically been passive and now it is an active, aggressive component of medicine, a supplied type of thing, a competition environment. Professionals have historically decided what the standards of care would be and now it is coming down to where the purchasers are deciding the kind of care that will be delivered and a change from cottage industry to big business. You can remember Naisbett's prediction that by sometime in 1990 there will be 10, maybe 20, mega-industry organizations delivering medical care; and, of course, technology, has increased the cost. There are other factors of course—the aging of America and the manpower situation. One of the concerns that we have in organized medicine is that in the process of all the great gain that we have had there has been a decline in the image of physicians and in the medical profession in general.

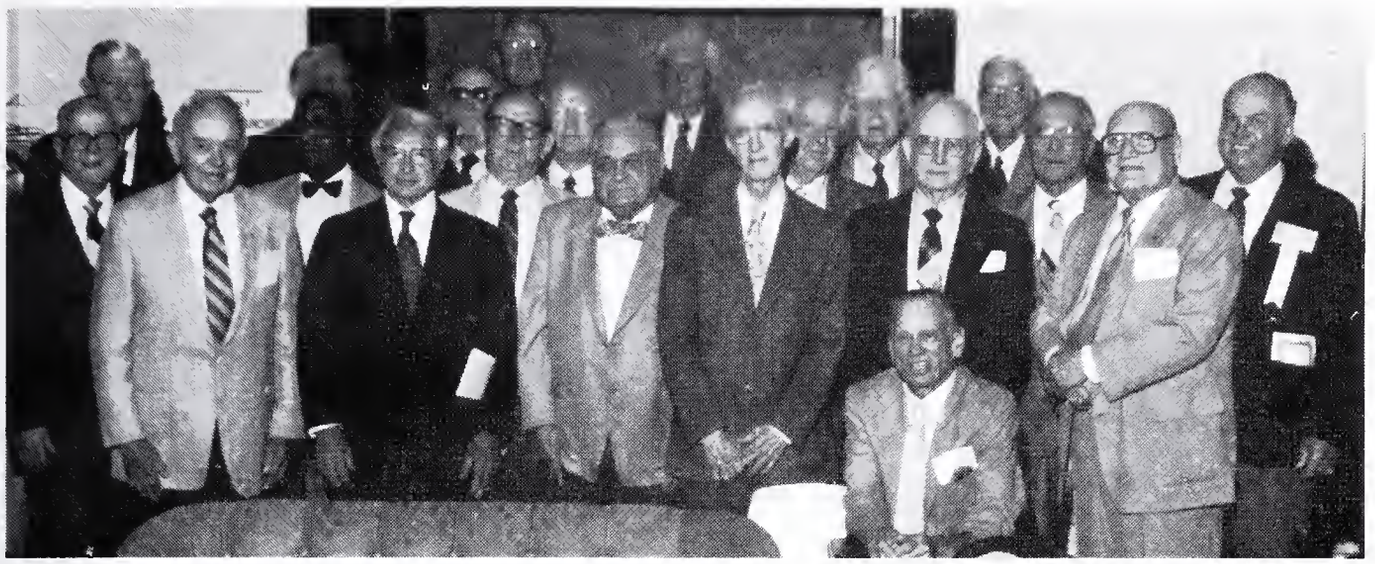
A November poll of 1984 showed that 54% of the people felt that we as physicians didn't care the way physicians used to care in times past; 44% said we were strictly in it for the money and prestige. Only 28% indicated they thought we were in medicine to help people; 34% felt that we spent enough time in what we do, and 61% said we don't. We don't take enough time to talk to the patients to communicate, and the consequence is that there has been an image slide. In 1984, at the American College of Surgeons meeting, Eli Ginsburg, an economist who has been with every presidential party or activity since Franklin Delano Roosevelt, said the golden age of medicine was the period from 1965 to 1983. He gave ten



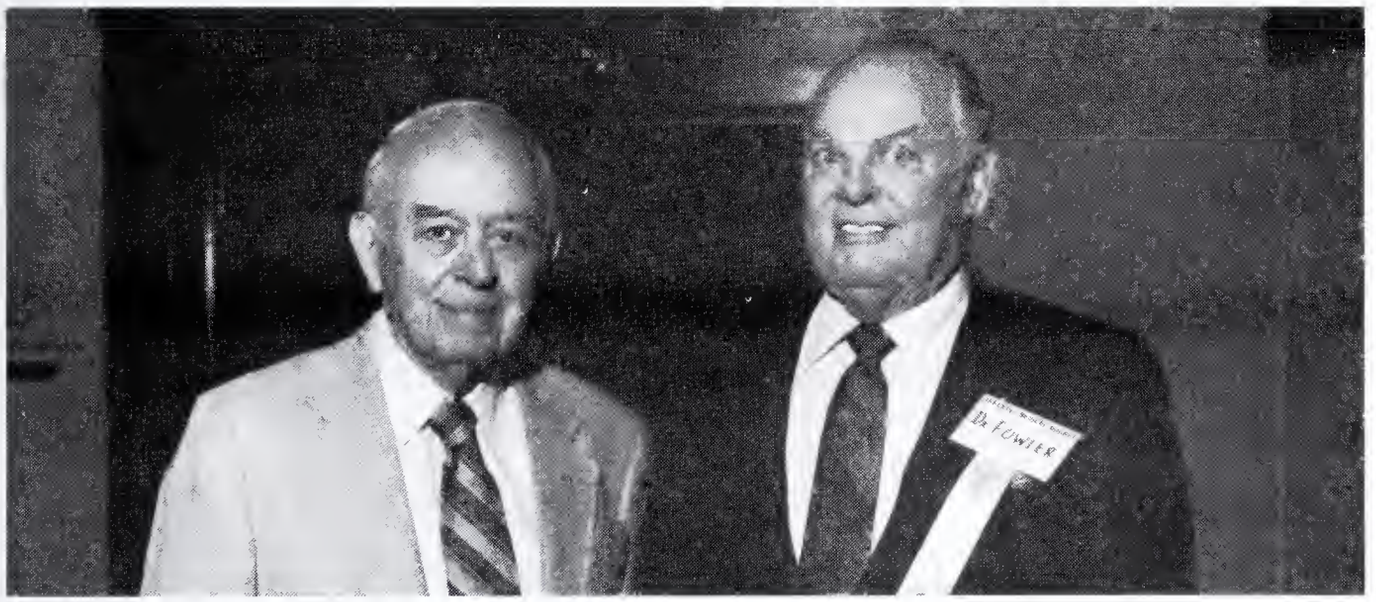
PRINCIPAL OFFICERS OF THE ARKANSAS MEDICAL SOCIETY FOR 1986-1987
(Left to right) James M. Kolb, Jr., Russellville, Treasurer; John P. Burge, Lake Village, Immediate Past President; J. Larry Lawson, Paragould, Chairman of the Council; Ken Lilly, Fort Smith, President; W. Ray Jouett, Little Rock, President Elect; James R. Weber, Jacksonville, Secretary.



THE COUNCIL OF THE ARKANSAS MEDICAL SOCIETY, 1986-1987
(Front row, left to right) Frank Morgan, James M. Kolb, Jr., John P. Burge, J. Larry Lawson, W. Ray Jouett, Ken Lilly, James Weber, Charles Logan and Morton Wilson. (Second row) Paul Cornell, William Jones, Ronald Bracken, Warren Douglas, Merrill Osborne, Sybil Hart, Richard Pearson, Harold Purdy, Paul Wallick, L. J. "Pat" Bell. (Third row) Paul Meredith, James D. Armstrong, Lloyd Langston, Amail Chudy, John Hestir, Jim Lytle, and Robert Langston.



Members of the Fifty Year Club. (Not in order) Henry G. Hollenburg, J. P. Price, Hallman Sanders, John T. Herron, John E. Greutter, Jr., Oba B. White, Sanford C. Monroe, Vance Strange, John McCollough Smith, Ross Fowler, Aaron C. Modelevsky, Edgar Easley, Frank Burton, H. V. Kirby, John Guenthner, Joe Verser, Robert Watson, Jim McKenzie, Edwin Gray, Woodbridge Morris, and Gilbert Dean.



Frank Burton, President, and Ross Fowler, Secretary, of the Fifty Year Club.



Past Presidents attended a luncheon. (Seated) Purcell Smith, C. R. Ellis, Samuel Koenig, H. W. Thomas, and Robert Watson. (Front row, standing) T. E. Townsend, W. Payton Kolb, Charles Wilkins, Jr., Stanley Applegate, A. E. Andrews, Ben Saltzman. (Second row, standing) John Burge, Asa Crow, Ken Lilly, Joe Verser, and Kemal Kutait.

MEMBERS ENJOYED THE CONVENTION RECEPTIONS

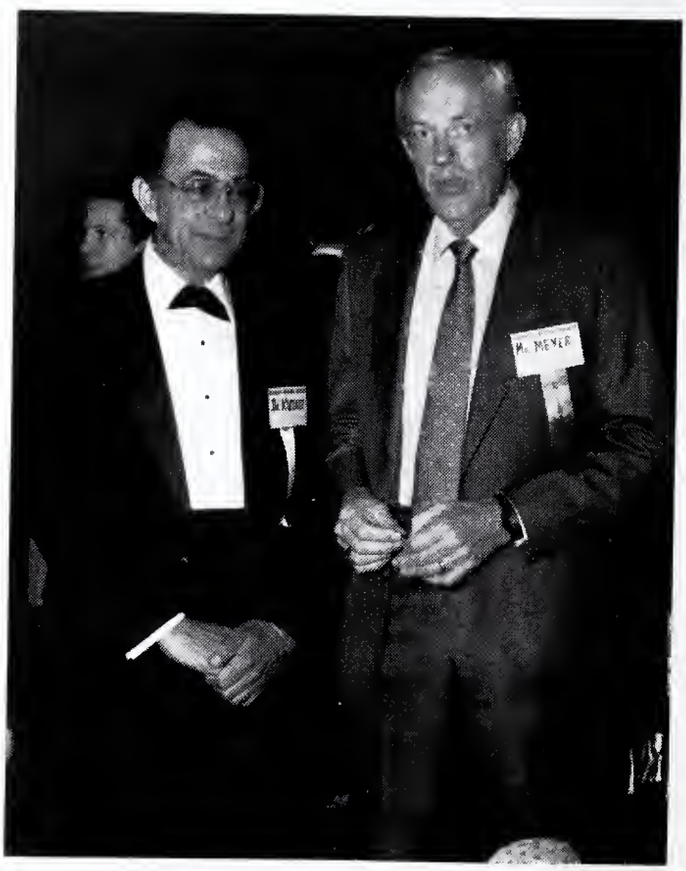












things that happened during that time. The federal government found the cost of medical services to go from five billion up to 100 billion since Medicare was introduced. State governments have found their costs for Medicaid going up tremendously. Business coalitions gave away the stores to groups such as the United Auto Workers. At General Motors, for example, not only does the company carry a very fine health insurance plan for their present workers but also all the people who are retired are covered. Hospitals have gotten involved in the business—for profit chains have entered into it. The concept is not only horizontal integration (forming hospital chains) but the vertical integration is such that they are trying to get a hold on supply by hiring physicians so they can keep their patients coming into their system. Insurance companies are no longer check writers—they are getting involved in the decisions that are being made.

Can anyone overlook or forget, or do you need any elaboration on professional liability and its effects. I think probably not. And you are aware of the fact that Arkansas is one of the most desirable places in the nation to be from the standpoint of professional liability, but you are wise enough to know that is not likely to stay as advantageous as it is. You will soon be experiencing that which we have experienced in other states in the nation. You know the intolerable nature of the situation in New York. One example—consumer groups that are becoming more active. This is still in line with Ginsburg's list. Corporate medicine, the actual profit making delivery system, where instead of being the patient advocate you have to be your stockholder advocate. What about manpower? When I graduated from medical school there were graduates of around 7,000-8,000 a year; now it is up to 17,000 with all the impact that happens. Finally on Ginsburg's list was the diminishing influence in Congress which may go along with DuVall's demythologizing. Well we are aware of this at the AMA just as you are in Arkansas; and you are able, active and effective representatives of the AMA, good friends and colleagues, and effective workers.

I bring back the information on what our programs are and what we are going to do to be of influence. Just let me very briefly tell you some of the things that are of concern and things we are working with right now. To reiterate first, the goal of the 150-year-old AMA, (not quite 150, Arkansas is 150) is still the same, that is to promote the science of the art of medicine and to advance and protect public health. Our missions have been decided by the federation and delegates of which there are four. The first is representation, and that is one of the reasons that I am here. But it just isn't representation to the federation, it's representation to the public, to Congress, to consumer groups and all of those who have a legitimate interest in medical care. That has been a part of it again and again as the number one mission of organized medicine — representation. Second is information. The accumulation and dissemination of information to our organized doctor groups and patient groups. An example is the action plan on AIDS which is going forth right now and which intends to use the doctors of this nation as disseminators of accurate information on AIDS in an attempt to dispel the frantic anxieties that occur irrationally at times around the country. The third mission is to establish, implement and maintain standards in medical education. We are involved deeply with the ACCME and the Liaison Council on Graduate Medical Education. And fourthly, to establish, implement and maintain standards of medical care. For most of us those are the goals and missions of organized medicine and out of those, flow the particular activities that we have. I have listed a litany of things that indicate how we are being deceived and assaulted from every side, and one of those areas that you see is not just the competition which we favor in opposition to regulation. But the regulations do come down to us. Federal regulations are something we are constantly testifying on before Congress. We have faced fee freezes and we may face another. Physicians contributed over $3 billion to the American economy by the voluntary fee freeze back in 1984 and 1985. But there is still a desire in a faction of Congress to freeze fees even further and to impose DRG's on physicians as well as on hospitals. We are fighting to prevent that. We are fighting to prevent reduction of the dollars that are available. Less than a third of the budget is subject to the eleven plus billion dollar reduction that has to be done according to Gramm-Rudman by this fall. The areas that cannot be changed are the interest on the national debt and social security. So a narrow segment of the big pie must come down eleven plus billion dollars, with an enormous amount of this coming out of the monies

that are available for health care. DRG's have imposed a sicker and quicker discharge attitude. Patients are being pushed out before they are really ready to go. Last week it was my privilege to represent you at a subcommittee hearing on Capitol Hill urging them to resist the cuts in Medicare and Medicaid and to insist that cuts come from public segments including the defense budget and not impose this kind of problem on the patients of America. Yes, you get the dollars that are paid from Part B but they are talking about Part A reductions as well. Significantly so, it is in that kind of representation that we are trying to stand clear.

You see what is happening in Massachusetts where they are linking licensure with the acceptance of assignment on Medicare. Physicians probably are going to show up here from Massachusetts to get out from under their problems. I understand what these intrusions mean. I understand the feelings that it's not as much fun to practice now as it used to be. I hear in a lamentable way too many doctors saying I wouldn't go into medicine if I had it to do again. I think we need to take in the presence and full understanding that we do deal in a time of great turbulence and great assault, but we belong to the finest profession in the world. We do have patient advocacy as the touchstone of our decisions and our activities. We do deal with the brightest and best in our medical schools, residencies and colleagues. We are privileged to be there. Granted, in the free world we stand alone. We do not want to see the changes that have occurred in Sweden, France, Germany, and in England. We legitimately stand and fight for a patient's rights so that we don't run into the problems of being over a certain age and not getting dialysis or a hip transplant, and we are going to continue this stand as patient advocates. I would like us to combine, to raise our heads, lift our hearts and not give way to despair, discouragement or defeat, so that we recognize in this image slide the limited constituency that we represent.

A physician in Pennsylvania said he had kept track of what patients want. He said there were four "A's". They want availability—they want their doctor to be available. They want affordability—they want to be able to pay for what they get. They want adaptability—they want that special exchange between you and them and then they want ability. He said it was not a nonscientific, randomized poll but a lifetime of interaction with patients. That is what it came down to. Finally I think the epitaph that each of us would like would be one that said, "He cured sometimes, he comforted often and he cared always". In the midst of all that we are confronted with "let's keep our goal in sight".

I would like to conclude with a little story that was a favorite of our former Governor Stalling of Washington. We don't have the same kind of weather as you, occasionally when it rains up our way we have some fog. He told a story of when a newly outfitted aircraft carrier was steaming north out of the Pudget Sound the Admiral was watching over the officers of the deck. The steering radar noted what appeared to be a collision course with a radar blip. The Admiral said to send a message, "alter your course ten degrees east". The radio man did that and the message came back, "alter your course ten degrees west". Somewhat miffed, the Admiral said send another message, "alter your course ten degrees east, I am an admiral". Later the message came back, "alter your course ten degrees west, I am a seaman, second class". This really upset the Admiral and he said to send a message, "alter your course ten degrees east, this is an aircraft carrier". The message came back, "alter your course ten degrees west this is a light house".

Now you can make medicine what you want it to be—the light house, with us as the only ones delivering medicine, or the aircraft carrier steaming on a stiff course towards a collision with other people. Let's keep our heads up.

FINAL SESSION
HOUSE OF DELEGATES

Speaker of the House Amail Chudy called the final session of the 110th meeting of the House of Delegates to order Sunday, April 21, at 10:00 a.m. He called upon W. Payton Kolb to give the invocation.

Voting members of the House who registered for the final session were: BAXTER, Robert Baker; BENTON, Jan Turley; BOONE, H. V. Kirby; CARROLL, Oliver Wallace; CHICOT, Dan Berry; CLEBURNE, Thomas L. Eans; COLUMBIA, John Ruff; CRAIGHEAD-POINSETT, Don Vollman, Joe Stallings; CRAWFORD, Millard C. Edds; CRITTENDEN, C. Herbert Taylor; DREW, Paul A. Wallick; FRANKLIN, David Gibbons; GARLAND, Brenda Powell; GREENE-CLAY, J. Darrell Bonner; JEFFERSON, John Crenshaw, George Roberson, I. S. Reid; LAWRENCE, Ralph Joseph; LONOKE, Jerry C. Chapman; MEDICAL STUDENT, Martin Porter; MILLER, Paul Meredith; MISSISSIPPI, Eldon Fairley; MONROE, Jon R. Ewing; POLK, David D. Fried, Frank Lawrence; PULASKI, Carlos Araoz, David Barclay, Warren Boop, Paul Cornell, Charles Crocker, Gregory Dwyer, William Golden, Edwin Hankins, Fred Henker, Jay Brainard, Jerry Mann, Reid Henry, Mayne Parker, Charles Rodgers, Robert Shannon, James McDonald, Douglas Horan; SALINE, Marvin Kirk; SEBASTIAN, A. C. Bradford, Wendell Ross, David Busby; ST. FRANCIS, Sam McGuire; TRI-COUNTY, Michael Moody; UNION, Raymond N. Bowman, Durwood Flournoy; VAN BUREN, John A. Hall; WASHINGTON, Lee Parker, Earl Riddick; YELL, James L. Maupin. COUNCILORS, Merrill J. Osborne, Jim E. Lytle, John Hestir, Lloyd G. Langston, George Warren, W. Ray Jouett, Frank E. Morgan, Charles W. Logan, Richard N. Pearson, J. Larry Lawson, L. J. P. Bell, James D. Armstrong, Ronald J. Bracken, William N. Jones, Harold D. Purdy, Robert H. Langston, and Morton Wilson; PRESIDENT, Ken Lilly; FIRST VICE PRESIDENT, Milton Deneke; SPEAKER OF THE HOUSE, Amail Chudy; VICE SPEAKER OF THE HOUSE, Sybil R. Hart; SECRETARY, James R. Weber; TREASURER, James M. Kolb, Jr.; PAST PRESIDENTS: Joe Verser, C. R. Ellis, Ross Fowler, A. S. Koenig, Jr., W. Payton Kolb, A. E. Andrews, Kemal Kutait, Purcell Smith, Jr., Asa A. Crow, Charles F. Wilkins, Jr. and John Burge.

Speaker Chudy introduced Mrs. Frank (Margaret Ann) Morgan, president of the Southern Medical Association Auxiliary as a special guest. Mrs. Morgan explained the purpose and goal of the Southern Medical Association Auxiliary and invited all physicians to attend their annual meeting in early November in Atlanta, Georgia.

Speaker Chudy asked James Armstrong, Chairman of the Nominating Committee, to come forward to present the slate of officers as proposed by the Nominating Committee:

COUNCILORS:

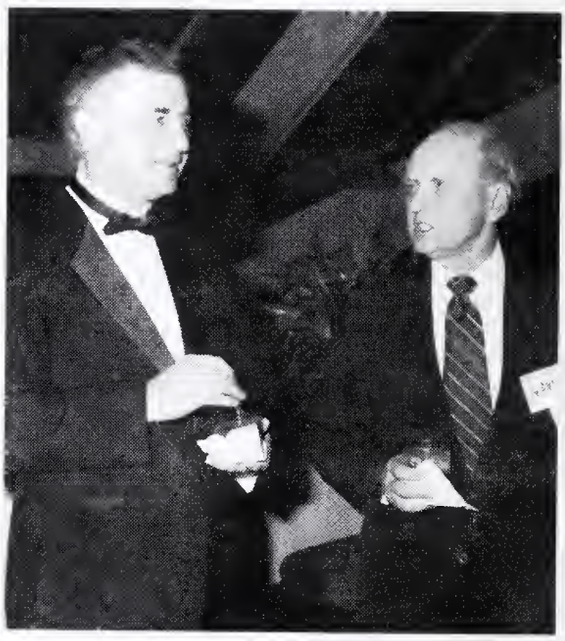
President-Elect ..... W. Ray Jouett, Little Rock
Asa Crow, Paragould
First Vice President ..... James Gardner, Hot Springs
Second Vice President ..... Ramon E. Lopez, Newport
Third Vice President ..... Paul D. Meredith, Texarkana
Treasurer ..... James M. Kolb, Jr., Russellville
Secretary ..... James R. Weber, Jacksonville
Speaker of the House of Delegates ..... Amail Chudy, North Little Rock
Vice Speaker of the House of Delegates ..... Sybil Hart, Blytheville
District 1 ..... J. Larry Lawson, Paragould
District 2 ..... John E. Bell, Searcy
District 3 ..... L. J. Patrick Bell, Helena
District 4 ..... Paul Wallick, Monticello
District 5 ..... Cal R. Sanders, Camden
District 6 ..... James D. Armstrong, Ashdown
District 7 ..... Ronald J. Bracken, Hot Springs
District 8 ..... William N. Jones, M.D.
Harold Purdy, Little Rock
Frank E. Morgan, North Little Rock
Warren Douglas, Little Rock
Paul Cornell, Little Rock
District 9 ..... Robert H. Langston, Harrison
District 10 ..... Morton C. Wilson, Fort Smith
Delegates to the American Medical Association ..... Joe Verser, Harrisburg
A. E. Andrews, Texarkana
Alternate Delegates to the American Medical Association ... Joe Verser: Richard N. Pearson, Rogers
A. E. Andrews: George Warren, Smackover

MEMBERS ENJOYED THE CONVENTION RECEPTIONS







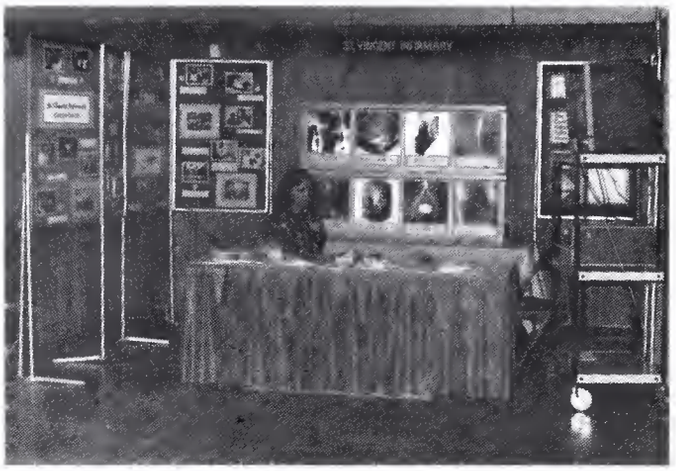






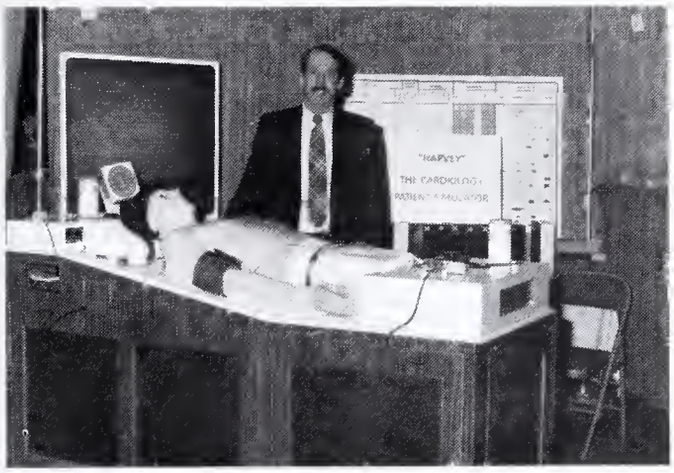
CANDID PHOTOGRAPHS FROM THE CONVENTION

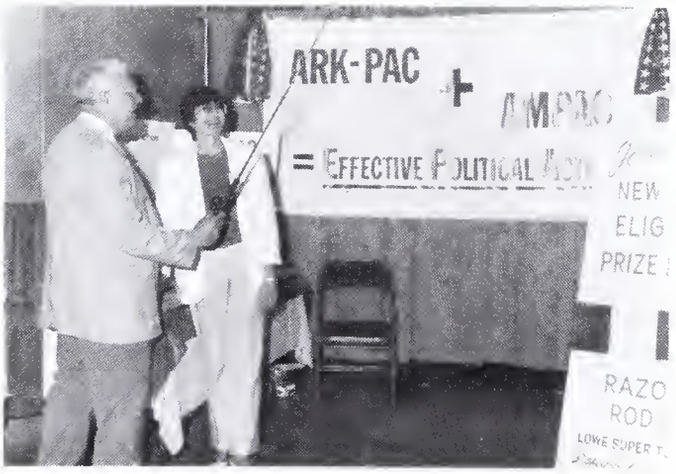




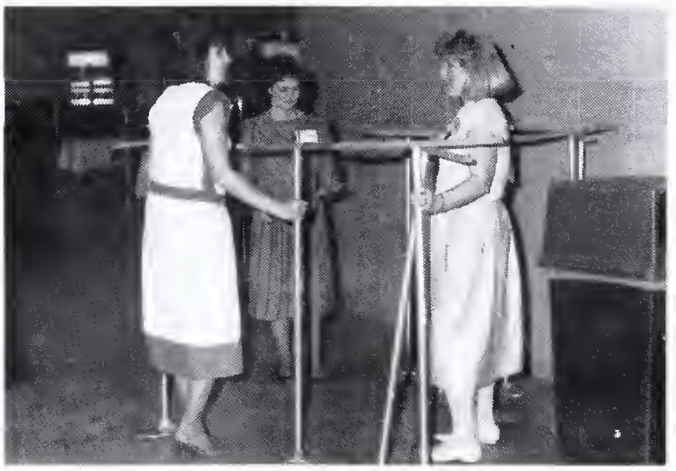












INAUGURAL BANQUET



Head Table for Inaugural Banquet (left to right) Dr. and Mrs. Charles Wilkins, Dr. and Mrs. James Webet, Dr. and Mrs. Ken Lilly, and Dr. John Burge.



Mrs. Jerry (Ginny) Blaylock, Jonesboro, 1985-86 Auxiliary President introduced the Shuffield Award winner.



President John Burge gave his farewell remarks before the inaugural proceedings.



Head Table for Inaugural Banquet (left to right) Dr. and Mrs. John Burge, Dr. and Mrs. John Dawson, and Dr. and Mrs. J. Larry Lawson.



President Burge presented an appreciation plaque to Dr. Alfred Kahn, Editor of *The Journal of the Arkansas Medical Society*. Dr. Kahn is retiring after 30 years of service.



Mrs. Frank (Margaret Ann) Morgan received a gift from the Society for being elected President of the Southern Medical Association Auxiliary.



President Burge presented the Shuffield Award to Mrs. Rebecca Rasberry of Jonesboro.



Dr. C. C. Long received the title of Honorary Past President. President Burge presented him with a plaque affirming this title.

Asa Crow asked that his name be withdrawn from the slate of nominees. W. Ray Jouett was elected by acclamation. Nominees for other positions as proposed by the nominating committee were elected by acclamation.

The Nominating Committee advised the House that the election of W. Ray Jouett to the position of President-Elect created a vacancy in the position of Eighth District Councilor. The Nominating Committee nominated Paul Cornell of Little Rock to fill the unexpired term of councilor and the House elected Paul Cornell to the position.

Speaker Chudy requested that William Jones and Payton Kolb escort W. Ray Jouett to the podium. Dr. Jouett addressed the House as follows in accepting the position of President-Elect of the Society:

"No speech, I just want to thank you for one of the greatest honors that I could have and I promise to do everything I can for the Arkansas Medical Society the year that I am President. Thank you."

Past President Burge asked to speak to the House of Delegates about a colleague of ours. "This person has long served you in organized medicine, he has served you in this organization as a Delegate in the House, as your Vice-Speaker, Speaker, as Chairman of the Council and as your Executive Vice President. He has served the AMA as an alternate delegate, a delegate, and a member of the AMA Council of Rural Affairs. Our Council has honored him and we have conferred upon has honored him and we have conferred upon him the title of Honorary Past President. Dr. Long will you please come forward? These items are a gift to you from the Society. We can't say that we can do anything about your fishing skill but we can say you will be the best equipped." Dr. Long expressed his appreciation.

Ken LaMastus asked to speak to the House so that he could introduce the new staff members the physicians would be working with. They are as follows: Peggy Pryor Cryer, Director of Administrative Services; Barbara Pangle, Executive Secretary; Teresa Stiles, Bookkeeper; Nadine Gentry, Secretary; Martha Taylor, Journal Secretary; and Kerrie Findley, Receptionist.

Speaker Chudy asked that Charles Logan come forward to moderate the panel speaking on Professional Liability. Panel members are as follows: Mr. Winslow Drummond, President, Arkansas Trial Lawyers Association; William A. Eldredge, Defense Attorney and a member of the American Trial Lawyers Association; and Michael S. Mullen, Insurance Carrier and President of the Medical Protective Company, Fort Wayne, Indiana. Each speaker was allowed ten minutes to present their view as to the status of professional liability in Arkansas. Mike Mitchell, the Society's General Counsel, moderated a question and answer session immediately following the speakers.

REFERENCE COMMITTEE NUMBER ONE REPORT

Lloyd Langston, Chairman

Mr. Speaker, members of the House of Delegates, your Reference Committee gave careful consideration to the items referred to it and makes the following report.

Report of the Committee on Public Health, Don G. Howard, Chairman. This report was presented for review by the committee and an addendum was made by Ben Saltzman on Don Howard's behalf. The addendum is as follows: In paragraph 3 (A) 1 of the rules and regulations pertaining to the testing of newborn infants for phenylketonuria and congenital hypothyroidism. The current regulation is as follows:

> "Medical Facilities/Medical Staff: In all cases where the birth of an infant occurs in a medical facility licensed by the Board of Health, it shall be the responsibility of the governing body and medical staff of the facility to adopt and enforce policies and procedures which ensure that blood tests for PKU and CH are conducted and processed in accordance with these rules and regulations. The licensed facility shall also be responsible for submission of the usable blood specimen in cases where an infant less than six months of age is admitted (i.e., born out of hospital, neonatal transfer, etc.) and it is brought to the attention of the facility and the attending physician that the infant is untested. If an infant is discharged from a licensed medical facility without collection and submission of a usable specimen for testing, it shall be the responsibility of the discharging facility and the attending physician to arrange for the testing. The discharging facility shall notify the Arkansas Department of Health within one week of discharge if their efforts fail to arrange for testing."

Changes were requested in the final sentence of that regulation. The requested change states that "the discharging facility and attending physician

shall notify the Arkansas Department of Health within one week of discharge if their efforts fail to arrange for testing".

The Committee expressed several areas of concern, including difficulty in finding some patients after discharge from the medical facility, inability to assure followup visits as directed to the patient, and a great increase in liability exposure to both the physician and the discharging facility. There was also concern expressed about delays in obtaining results from these tests. The committee recognizes the importance of this testing and was concerned that results should be adequately followed up in these situations.

Following discussion and consideration, the Reference Committee recommends the following substitute proposal: "if an infant is discharged from a licensed medical facility without collection and submission of a usable specimen for testing, it shall be the responsibility of the discharging facility to notify the Arkansas Department of Health within one week of discharge and the Arkansas Department of Health will be responsible for arranging the testing."

Mr. Speaker, your committee recommends that this committee's substitute proposal be accepted. I so move.

Mr. Speaker, your committee recommends that the rest of the report of the Committee on Public Health be received for information.

Mr. Speaker, your committee recommends the following reports be received for information:

1. Sub-Committee on Maternal and Child Welfare
2. Committee on Continuing Medical Education
3. Committee on Public Relations
4. Committee on Aging
5. Medical Services Review Committee
6. Fifth Councilor District Report
7. Eighth Councilor District Report
8. Report of the Executive Vice President
9. Budget Committee Report
10. Report of Medical Education Foundation for Arkansas
11. Impaired Physicians Committee

I so move. Mr. Speaker, this completes the report of Reference Committee Number One. I move the adoption of the report as presented.

Mr. Speaker, I wish to thank those who served on the committee with me: Cal R. Sanders of Camden, Wendell Ross of Fort Smith, Fred Henker of Little Rock, Bryan L. Burke of Pine Bluff and Mitzi Washington of Little Rock, the medical student observer.

REFERENCE COMMITTEE NUMBER TWO

Frank Morgan, Chairman

Mr. Speaker and members of the House of Delegates: Your Reference Committee gave careful consideration to the items referred to it and makes the following report:

1. Resolution from Pope County: Your Reference Committee recommends that this resolution be defeated. It would appear that the Arkansas Foundation for Medical Care is making every effort to make the review process more equitable. We detect the need for the Arkansas Medical Society to coordinate a forum which might bring to the public a better awareness of the contemporary limitations of health care delivery.
2. Resolution from Tri-County: Your Reference Committee recommends approval of this resolution.
3. Report of the Council: Mr. Speaker, your Reference Committee recommends that this report be adopted.
4. Committee on Medical Legislation
5. Sub-Committee on State Health and Medical Resources
6. Professional Relations Committee for First Councilor District
7. Professional Relations Committee for Ninth Councilor District
8. Professional Relations Committee for Tenth Councilor District
9. Ninth Councilor District Report

Mr. Speaker, your Reference Committee recommends that the above reports be filed for reference.

10. Annual Session Committee: Your Reference Committee recommends acceptance of the report as published. We would like to commend them for their work in planning a very successful Annual Session.
11. Report of the Constitutional Revisions Committee: Your Reference Committee recommends the deletion of the words "dues-paying" and the second sentence in Revision #6 which reads, "Those active members who are paying only one-half of the regular dues amount shall be counted in the same manner as associate members." We also recommend the deletion of (A) (2) of Section 6 which reads, "Two associate members of a com-

ponent society shall count as one full membership in determining delegate representation of that component society." Chapter IV. House of Delegates. Section 6, Representation of Component Societies, would then read, "(A) (1) Representation for the House of Delegates shall be based upon the number of active members, life members, emeritus members, and associate members as of December 31 of the year preceding the annual meeting."

Renumber the present (A) (1) as (A) (2) of Section 6 and add the words underscored: "Each regular county society shall be entitled to send to the House of Delegates each year one delegate for every twenty-five Arkansas Medical Society members *as specified in (A) (1),* and one for each major fraction thereof, provided that its annual report and assessment are in the hands of the executive vice president by March 1st of each year. Each county society, however, regardless of its number of members, which has complied with this section, shall be entitled to one delegate."

12. Report on Medical Student Component Society: Your Reference Committee recommends that this report be accepted with the addition that it be noted that William E. Golden is the faculty advisor. There was an expressed desire for a need for communication with the Arkansas Medical Society as perhaps a student representative in attendance at the meetings of the Council.
13. Arkansas Department of Health: Your Reference Committee recommends that this report be accepted as printed. It should be noted that there was an expressed request of the Arkansas Department of Health to participate in a program to increase public awareness of the effects of chlamydial infections among the sexually transmitted diseases.
14. Resolution from Union County: Mr. Speaker, your Reference Committee recommends the adoption of this resolution.
15. Supplemental Report of the Council for March 16th: Your Reference Committee recommends that this supplemental report of the Council be accepted as distributed to the membership and as presented at the opening session of the House of Delegates.

Mr. Speaker, I move adoption of the entire report of this Reference Committee.

The report of the Constitutional Revision Committee (as amended by the Reference Committee) is printed at the end of the House of Delegates Report.

SUPPLEMENTAL REPORT OF THE COUNCIL

J. Larry Lawson, Chairman

The Council met on Thursday and conducted business as follows:

1. Heard a report from George Mitchell, president of Arkansas Blue Cross Blue Shield, regarding the plan's change to a mutual insurance company.
2. Approved requests for dues exemption as requested by the component medical societies.
3. Charles Logan presented a report from the Building Committee. The Council approved an additional $5,000 expenditure for all coverings and cabinets in the conference room of the Society's office suite in the building.
4. Reappointed James R. Weber, Asa Crow, and W. Payton Kolb to the Board of Trustees of the AMS State Legislative Fund.
5. Appointed specialty representatives on the Medical Services Review Committee as follows: Surgery—H. Scott Mahen, Magnolia; Allergy—Edwin Whiteside, Fort Smith; Dermatology—Douglas B. Horan, Little Rock; Otolaryngology—Tom Smith, Little Rock; Ophthalmology—Jim Magie, Conway; Radiology—Murray T. Harris, Fayetteville.

The Council met on Friday and transacted the following business:

1. Heard a report from Bryant Galusha, Executive Vice President of the Federation of State Medical Boards.
2. Voted to reappoint Amail Chudy to the Board of Directors of the Medical Education Foundation for Arkansas.
3. Voted to ask Alfred Kahn to continue as Journal Editor to allow the Council more time to reach a decision regarding selection of a new editor.
4. Heard a report from Ray Jouett regarding a position taken by the Medicine-Surgery Patient Care Committee of St. Vincent Infirmary regarding "no code" denials by the PRO. The Council voted to ask James Maupin of the PRO to meet with the Council on Saturday to address that issue.

INAUGURAL BANQUET



Head table and Past Presidents. (Back row, left to right) Drs. Ben Saltzman, W. Payton Kolb, Kemal Kutait, Purcell Smith, Morris Henry, Asa Crow, Charles Wilkins, Jr., C. C. Long, John Burge, A. S. Koenig. (Seated) Mrs. Charles Wilkins, Dr. and Mrs. James Weber, Dr. and Mrs. Ken Lilly, Mrs. John Burge.



President Lilly received his gavel from Past President Burge during the inaugural proceedings.



President Lilly introduced his wife, Iris.



Head table and Past Presidents. (Standing) Drs. John Burge, C. C. Long, A. E. Andrews, A. S. Koenig, C. R. Ellis, H. W. Thomas, Ross Fowler, Joe Verser, Joe Norton. (Seated) Mrs. John Burge, Dr. and Mrs. John Dawson, Dr. and Mrs. Larry Lawson.



President Lilly was applauded after giving his inaugural address.



Immediate Past President John Burge received a plaque of appreciation for his year of service.

FAREWELL TO FORT SMITH STAFF



Leah Richmond, Associate Executive Vice President retired after 34 years of service.



Employees receiving recognition for their work with the Society, Ann Lansdell, Debbie O'Bar and Vicki Hurst.



Each of the staff members received a gift of appreciation. (Left to right) Ann Lansdell, Vicki Hurst, Leah Richmond, Debbie O'Bar, Dorothy Thompson, and Peggie Branham.



Peggie Branham was honored for 17 years of service and Dorothy Thompson for 19 years of service.



Members and guests expressed their appreciation to the Fort Smith staff.



Debbie O'Bar received a gift from the Arkansas Medical Society for her service with the Society staff.



Dr. and Mrs. Lilly with Dr. Lilly's mother.



Dr. and Mrs. Ken Lilly and Dr. and Mrs. Amail Chudy.



Leah Richmond, President and Mrs. Lilly.

The Council met on Saturday and took the following action:

1. Heard a report on activities of the American Medical Association from Dr. John Dawson, member of the AMA Board of Trustees.
2. James Maupin of the Arkansas Foundation for Medical Care addressed the Council regarding the PRO denial of a patient's stay in the hospital based on the "no code" order.
3. Appointed to one-year terms on the Board of Directors of the Arkansas Medical Society Political Action Committee: Charles Rodgers, Little Rock; James M. Kolb, Jr., Russellville; A. Samuel Koenig, Fort Smith; Mrs. C. Lynn (Margaret) Harris, Texarkana; John Crenshaw, Pine Bluff; Robert Miller, Helena; Ken Lilly, Fort Smith; Mrs. C. Herbert (Ramona) Taylor, Memphis; Roger Cagle, Paragould; Richard Martin, Paragould; John Giller, El Dorado; Paul Meredith, Texarkana; C. G. Melton, Blytheville; Dan Davidson, Searcy; Robert Langston, Harrison; Joe H. Stallings, Jonesboro; James L. Hagler, Little Rock; Mrs. Kemal J. (Virginia) Kutait, Fort Smith; Mrs. Deno (Gwen) Pappas, Hot Springs; Mrs. Stephen R. (Sharon) Rauls, Blytheville.
4. Appointed John Hestir of DeWitt to the Board of Trustees of the Arkansas Medical Society Pension Plan.
5. Appointed Kenneth Meacham of Searcy and Dennis Yelvington of Stuttgart to the Arkansas State Arbitration Commission.
6. Heard a discussion of problems with claims processing for Medicaid and voted to request information from the membership so that appropriate action may be taken prior to the next session of the Legislature.

The Council met on Sunday and transacted business as follows:

1. Appointed Lloyd Langston, Paul Cornell, Wendell Ross and Barry Thompson to the Position Papers Committee.
2. Authorized the Treasurer and Executive Vice President to select appropriate banking facilities in Little Rock for deposit of Society funds.

* * * *

Speaker Chudy announced the following nominations for State Board positions. Arkansas State Medical Board: Warren Douglas, who is currently serving was renominated to the position. Arkansas State Board of Health nominees: District 2—Kenneth Meacham of Searcy (now serving), Michael Moody of Salem and James Stacks of Batesville. District #5—Wayne Elliott of El Dorado (now serving), George Warren of Smackover and Raymond Bowman of El Dorado. These names will be submitted to the governor for his appointment.

Leah Richmond, Associate Executive Vice President, who resigned as of April 30, 1986, gave her farewell remarks to the House of Delegates after 34 years of dedicated service. She recognized each of her staff members who together have contributed a combined total of approximately 50 years of service.

Speaker Chudy announced there would be a brief reorganizational meeting of the Council and the photographer would take a group picture of the Council members.

The meeting adjourned.

REPORT OF THE CONSTITUTIONAL REVISIONS COMMITTEE

A. S. Koenig, Jr., Chairman

In the past few years, the Constitution was changed to allow more than two councilors per district and to make the immediate past president a voting member of the Council and Executive Committee. Some sections of the Constitution and Bylaws affected by these changes were not revised. The Committee offers the following proposed revisions to bring those sections into compliance.

1. Article IX. Officers
   Delete the word "twenty" specifying the number of councilors and add "immediate past president" as an officer. The section would then read: "The officers of this Society shall be a president, president-elect, three vice presidents, Speaker of the House of Delegates, Vice Speaker of the House of Delegates, a secretary, a treasurer, an immediate past president, and councilors. Their qualifications and terms of office shall be as provided in these Bylaws."
2. Chapter V. Election of Officers
   Delete the words "Each year, ten" in Section 6 so that it will read: "Councilors shall be elected to serve a two-year term; all other terms of office are for one year. All officers shall serve until their successors are installed."
3. Chapter VI. Duties of Officers
   Delete the second sentence of Section 8, which

reads "the two councilors in each district shall be designated 'senior' and 'junior' on the basis of length of tenure and substitute "the one in each district with the longest tenure shall be considered the senior councilor". The revised section would then read: "Each councilor shall be organizer, peacemaker, and censor for his district. The one in each district with the longest tenure shall be considered the senior councilor."

The Committee was requested by the Council of the Society to present proposals regarding component society representation on the Council and in the House of Delegates. The Committee offers the following recommendations:

4. Chapter 1. Membership. Section 2. Membership Classifications.
   (B) Life Membership
   Delete "an active member who" and substitute "a physician who has been an active member of this Society for a period of ten years and who", so that the section would read: "A physician who has been an active member of this Society for a period of ten years and who has continuously been a member of organized medicine and has either (1) attained age seventy or (2) practiced forty-five years shall be eligible for life membership and, upon the recommendation of his component society, shall be granted such status by the House of Delegates. Life Members shall have the right to vote, hold office, and all other privileges of membership in this Society.
5. Chapter 1. Membership. Section 2. Membership Classifications.
   (c) Emeritus Membership
   Delete "an active member who" and substitute "a physician who has been an active member of this Society for a period of ten years and who"; delete the word "not" in the last sentence. The section as revised would read: "A physician who has been an active member of this Society for a period of ten years and who has continuously been a member of organized medicine for less than forty-five years and who has fully retired from the practice of medicine shall be eligible for Emeritus Membership. Such membership shall be granted by the House of Delegates upon the recommendation of the member's component society. Emeritus members shall have the right to vote, hold office, and all other privileges of membership in the Society."
6. Chapter IV. House of Delegates. Section 6. Representation of Component Societies.
   Add the following as (A) (1) of Section 6: "Representation for the House of Delegates shall be based upon the number of active members, life members, emeritus members, and associate members as of December 31 of the year preceding the annual meeting."
   Renumber the present (A) (1) as (A) (2) of Section 6 and add the words underscored: "Each regular county society shall be entitled to send to the House of Delegates each year one delegate for every twenty-five Arkansas Medical Society members *as specified in (A)(1),* and one for each major fraction thereof, provided that its annual report and assessment are in the hands of the executive vice president by March 1st of each year. Each county society, however, regardless of its number of members, which has complied with this section, shall be entitled to one delegate."
7. Article VI. Council.
   Add the following as a new Section 3:
   Section 3. Representation
   "Representation on the Council shall be based upon the enumeration of members in each councilor district in accordance with provisions of these Bylaws for representation in the House of Delegates".
   Renumber the present Section 3 (Executive Committee) as Section 4.

GENERAL PROGRAM

On Thursday afternoon, a socioeconomic seminar was presented with Kelsey Caplinger presiding. The program theme was "Prophylaxis for Retirement, Can I Afford to Retire?" The program was designed to help young physicians with long-range planning toward retirement as well as the other physicians approaching retirement age. Speakers were Jim Hawkins, Medical Management Consultant of Hawkins and Hawkins and Jack Meyers, a financial and retirement planning consultant.

Session topics were as follows: "What are my Retirement Goals?", "Choosing the Right Retirement Plans", "Best Way to Invest Retirement Funds", "Estimating Retirement Needs", "When Can I Afford to Retire", "What If I Am Forced To Retire?", "How Can I Save on Taxes?" and "How to Plan the Disposition of my Estate?"

The general session of scientific lectures opened at 9:30 a.m. on Friday with the theme of "Coronary Arteriosclerosis". First Vice President Milton Deneke presided.

Charles Rackley, Professor and Chairman of the Department of Medicine, Georgetown University Medical Center in Washington, D. C., spoke on "Medical Treatment of Coronary Artery Disease (Conservative Management)". Beverly Lorell, Assistant Professor of Medicine, Harvard Medical School, and Co-Director of Cardiac Hemodynamic Laboratory, Beth Israel Hospital in Boston, presented "Interventional Cardiology". Denton Cooley, Surgeon-in-Chief at St. Luke's Hospital in Houston, Texas, spoke on "Surgical Management of Coronary Artery Disease". The morning session ended with a panel discussion.

Friday afternoon's feature topic was "Medical vs. Surgical vs. Interventional Treatment of Coronary Artery Disease". Second Vice President Arthur E. Squire, Jr., presided. Featured speakers were Charles Rackley, Professor and Chairman of the Department of Medicine, Georgetown University Medical Center, Washington, D. C., who spoke on "Impact of DRGs"; Richard Jordan, Associate Professor of Medicine, University of Arkansas for Medical Sciences in Little Rock who spoke on "Atherogenesis (New Concepts)"; Charles A. Worley, Vice President of the American Academy of Family Physicians, Sweet Springs, Missouri, who discussed "Economics of Coronary Artery Disease ($60 Billion Business)" and Michael G. Goldstein, Instructor, Department of Psychiatry and Human Behavior at Brown University in Providence, Rhode Island, who discussed "Psychological Aspects of Coronary Artery Disease."

The Saturday morning scientific session began at 9:00 a.m. with Raymond N. Bowman, Third Vice President, presiding. The featured topic was "Peripheral Vascular Disease". David Harshfield, Assistant Professor, Department of Radiology, University of Arkansas for Medical Sciences in Little Rock, spoke on "Current Trends in Out-Patient Angiography". Robert Barnes, Professor and Chairman of the Department of Surgery at the University of Arkansas for Medical Sciences in Little Rock lectured on "Current Management of Carotid Artery Disease". The last lecture was "Evaluation and Management of Femoral-Popliteal Occlusive Disease" by G. Ken Hempel, of Dallas, Texas.

The session ended with a panel discussion.

RELATED MEETINGS

The Arkansas Chapter of the American College of Surgeons hosted a scientific program session on Friday afternoon at 1:00 p.m. Dr. G. Ken Hempel of Surgical Associates of Dallas was the guest speaker. His topic was "Supraclavicular Approach to the Thoracic Outlet Syndrome".

The Department of Otolaryngology and Maxillofacial Surgery of the University of Arkansas for Medical Sciences' Alumni Day guest speaker was Robert L. Simons. The meeting began at 1:00 p.m. Friday.

The Otolaryngology-Head and Neck Surgery group held a meeting on Saturday morning with Robert L. Simons as speaker. The meeting was

followed by a luncheon beginning at 12:00 noon.

The Arkansas Chapter of the American College of Radiology had a meeting on Saturday morning. Robert Elliott, President, presided. They held an executive committee meeting at 9:00 a.m. with a business meeting following at 10:00 a.m. The program session at 11:00 a.m. featured David Harshfield of the Department of Radiology at the University of Arkansas for Medical Sciences speaking on "Current Trends in Outpatient Angiography". Dr. Harshfield's speech was followed by a luncheon at 11:30 a.m.

The Arkansas Academy of Ophthalmology opened with a paper by Walter Jay on "Automated Perimetry—Principles and Concepts". Dr. Jay also made a presentation on "Ischemic Optic Neuropathy". Carol Chappell of Little Rock is secretary of the Academy. The program session was followed by a luncheon and business meeting of the Arkansas Ophthalmology Society.

The Arkansas Urologic Society held a pre-luncheon cocktail hour and luncheon at 12:00 noon. A business meeting and scientific program followed the luncheon. The guest speaker was Winston K. Mebust from the University of Kansas. John Redman of the University of Arkansas for Medical Sciences was program chairman for the Society.

The Arkansas Psychiatric Society met for a business session Saturday at 11:00 a.m. G. Richard Smith is President-Elect of the Society.

The Arkansas Orthopaedic Society had a luncheon and business meeting on Saturday. Robert H. May, President, presided.

Arkansas Society of Plastic and Reconstructive Surgeons held a luncheon and business meeting on Saturday. Eugene Still is secretary of the Society.

The Arkansas Society of Internal Medicine scheduled a luncheon meeting and business meeting with a program presented by John Baker, Ph.D., Director of Graduate Studies in Health Care Administration, University of Arkansas at Little Rock. John Crenshaw, president of the Arkansas Society of Internal Medicine, presided over the meeting.

The Arkansas Chapter, American Academy of Pediatrics, held a luncheon meeting. Robert Fiser chaired the meeting.

The Arkansas Neurosurgeons held a luncheon meeting at noon on Saturday. William Chadduck is Secretary of the chapter.

The Arkansas Society of Pathologists held a luncheon business meeting on Saturday at noon. Sybil Hart is president of the Society.

The Arkansas Academy of Family Physicians had a luncheon meeting with a program presented by Charles A. Worley, Vice President of the American Academy of Family Physicians.

OTHER ACTIVITIES

PRESIDENTS' LUNCHEON

Physicians who have served as president of the Arkansas Medical Society were guests of the Society for a luncheon on Thursday, April 17th, in Josephine's at the Excelsior Hotel. Approximately 15 past presidents were in attendance.

FIFTY YEAR CLUB

The Society hosted a luncheon for members of the Fifty Year Club on Saturday, April 19th, at 12:00 noon in the Brooks Parlor on the Mezzanine level of the Capital Hotel. Frank Burton of Hot Springs is president of the club and Ross Fowler of Harrison serves as secretary. The physicians who were eligible for induction into the Fifty Year Club membership this year were Robert Carnahan of Little Rock; L. E. Fitch of Conway; M. Haymond Harris of Newport; John T. Herron of Little Rock; Mason G. Lawrence of Little Rock; Sanford C. Monroe of Pine Bluff; Joe Verser of Harrisburg; and Hallman Sanders of Hot Springs. The members attending the luncheon were Henry Hollenburg, J. P. Price, Hallman Sanders, John T. Herron, John E. Greutter, Jr., Oba B. White, Sanford Monroe, Vance Strange, John McCollough Smith, Ross Fowler, Aaron Modelevsky, Edgar Easley, Frank Burton, H. V. Kirby, John Guenthner, Joe Verser, Robert Watson, Jim McKenzie, Edwin Gray, Woodridge Morris, and Gilbert Dean.

5K FUN RUN

Saturday morning, April 19th, at 6:30 a.m. in Riverfront Park, Smith, Kline and French Lab-

oratories sponsored a 5K Fun Run. Winners of the event were: Beth Crocker, third place; Charles Logan, second place; and first place went to John Crenshaw.

SHUFFIELD LECTURE

Pat Phillips of Fort Smith presided over the meeting.

Guests seated at the head table were: Charles Wilkins, Jr., Immediate Past President; Mrs. Robert (Nita) Valentine, President-Elect of the Auxiliary; J. Larry Lawson, Chairman of the Council; John Hestir, Chairman of AMS-PAC; John P. Burge, President; James Weber, Secretary; Mrs. Jerry (Ginny) Blaylock, Auxiliary President; Ken Lilly, President-Elect; John Dawson, AMA Board of Trustees; and Mrs. Elvin (Ada) Shuffield.

Dr. Phillips gave a brief explanation of the Shuffield lecture. "In January of 1984, the Council of the Arkansas Medical Society established the Shuffield Trust Fund to provide funding for an annual lecture in memory of Dr. Elvin Shuffield.

Dr. Shuffield served as secretary of the Society and as chairman of the Legislative Committee for over twenty years. During sessions of the Arkansas Legislature while he was chairman of the Legislative Committee, he spent most of his time at the Capitol working for enactment of legislation in the best interests of the citizens of Arkansas. He also unofficially served as physician to the legislators until the Society began the "Doctor of the Day" program. The Senate infirmary is named in his honor. The Society also named Dr. Shuffield an honorary past president at the 1984 annual convention.

The Shuffield lecture is presented annually during the convention of the Arkansas Medical Society. The Executive Committee of the Society selects the lecturer from fields of particular interest to Dr. Shuffield – orthopaedic surgery, ethics, political science, socioeconomics – or general scientific topics recommended by the Annual Session Committee."

Pat Phillips introduced Mrs. Elvin (Ada) Shuffield and recognized two daughters, Mrs. Carolyn Wright and Miss Linda Shuffield both of Little Rock.

The speaker of the second annual Shuffield Lecture was The Honorable Dale Bumpers, United States Senator from Arkansas. Senator Bumpers spoke on Medicare and Medicaid-related issues at the federal level. There were approximately 190 attendees.

PRAYER BREAKFAST

The Committee on Medicine and Religion sponsored a Prayer Breakfast on Sunday, April 20th, for members of the Society and Auxiliary. Fred Henker of Little Rock was featured as speaker and C. R. Ellis of Malvern lead the group in the singing of hymns.

MEMORIAL SERVICE

A joint Society-Auxiliary Memorial Service was held on Saturday, April 19th. The program included reading of scriptures by A. C. Bradford and solos by Jack Blackshear accompanied by Eugene Taylor. The Litany was led by President John Burge. Names of deceased members of the Arkansas Medical Society were read by President Burge and names of the deceased members of the Auxiliary were read by Ginny Blaylock, president of the Auxiliary. The benediction was offered by Ken Lilly.

IN MEMORIAM

* * SOCIETY MEMBERS * *

B. P. Briggs, Little Rock
Martha M. Brown, Little Rock
James W. Burnett, Texarkana
Bernard Capes, West Helena
Edgar K. Clardy, Hot Springs
Ralph E. Crigler, Fort Smith
A. B. Dickey, Walnut Ridge
Robert D. Dickins, Pine Bluff
John C. Faris, Jonesboro
John W. Harper, El Dorado
N. T. Hollis, Little Rock
Wilbur G. Lawson, Fayetteville
George L. Mallory, Jr., North Little Rock
C. G. Massey, Little Rock
L. D. Massey, Osceola
Roy I. Millard, Little Rock

W. E. Phipps, North Little Rock
Clark B. Proctor, Little Rock
Pierre Redman, Mena
Joe B. Scruggs, Jr., Heber Springs
Jack V. Sharp, Heber Springs
Neil H. Sims, Little Rock
Allen G. Talbot, Lake Village
E. Lloyd Wilbur, Little Rock
Marion H. Wilmoth, Nashville

*** * AUXILIARY MEMBERS * ***

Mrs. Harold N. Cogburn, Forrest City
Mrs. Noble Daniel, Texarkana
Mrs. C. G. DeBolt, Little Rock
Mrs. Julian Fairley, Osceola
Mrs. Ellis Gardner, Russellville
Mrs. John T. Gray, Jonesboro
Mrs. Daniel R. Hardeman, Little Rock
Mrs. C. L. Harris, Melbourne
Mrs. Nicholas T. Hollis, Little Rock
Mrs. Alvin E. Longstreth, Little Rock
Mrs. Jim J. Moore, Little Rock
Mrs. Phillip G. ReMine, Fort Smith
Mrs. Guy U. Robinson, Dumas
Mrs. Paul Rountree, Little Rock
Mrs. Lonie Routen, Little Rock
Mrs. Jack V. Sharp, Heber Springs
Mrs. John G. Slater, Jr., Little Rock
Mrs. Joe G. Shelton, Ashdown



ARKANSAS BLUE CROSS BLUE SHIELD PARTY

Arkansas Blue Cross Blue Shield hosted a cocktail reception for all members and guests on Thursday evening. Dr. and Mrs. George Mitchell and several representatives of the organization were present to welcome members of the Society. The Society expresses its appreciation to Arkansas Blue Cross for again sponsoring a popular convention activity.

COUNCIL RECEPTION

Council Chairman J. Larry Lawson headed the receiving line for the reception hosted by the Council of the Society on Friday evening, April 18th. Other members of the Executive Committee and their spouses made up the receiving line. All members and guests enjoyed a beautiful cocktail buffet.

API COCKTAIL PARTY

The American Physicians Insurance Exchange sponsored a cocktail party preceding the Inaugural Banquet on Saturday evening. The Society expressed its appreciation to API for an outstanding party. API officers present included Bill Meyer, Kemal Kutait, Jr., and Cynthia Ogle.

INAUGURAL BANQUET

President John Burge presided at the dinner on Saturday evening at which time Ken Lilly of Fort Smith was installed as the 111th president of the Arkansas Medical Society.

President Burge introduced the guests at the head table which included the Executive Committee and their wives along with Dr. John H. Dawson and his wife. Dr. Dawson is a member of the American Medical Association Board of Trustees.

"Baylor Showtime", a troupe of young people who attend Baylor University presented a review-style song and dance program for our evening's entertainment. President-Elect Ken Lilly's daughter Kim is a member of the performing group.

President Burge introduced several guests and officers of the Auxiliary. Included were Mrs. Jerry (Ginny) Blaylock, the Immediate Past President of the Arkansas Medical Society Auxiliary, Mrs. Robert (Nita) Valentine, President of the Auxiliary, Mrs. James (Mary) Gardner, President-Elect of the Auxiliary, Mrs. Frank (Margaret Ann) Morgan, President of the Southern Auxiliary, Dr. Charles Worley of Sweet Springs, Missouri, Vice President of the American Academy of Family Physicians and Dr. and Mrs. Ken Hempel of Dallas, Texas.

President Burge asked Ginny Blaylock to come to the podium to present the Shuffield Award to Rebecca Rasberry. The Shuffield Award is given to a non-physician for outstanding contributions to the health care field. It is in memory of Drs. Joe and Elvin Shuffield, whose many years of faithful service to medicine and the people of Arkansas symbolize that which is best in the medical profession.

Mrs. Rasberry, a reported for the *Jonesboro Sun,* received the award in recognition of "her outstanding journalistic skills and her commitment to fostering understanding between the general public and the medical profession". With sensitivity and objectivity, she has educated and

informed the public on health issues and events—thereby advancing the cause of better health care for Arkansas". Congratulations Mrs. Rasberry.

Mrs. Margaret Ann Morgan was asked to come forward to receive a gift from the Society and in honor of being elected President of the Southern Medical Association Auxiliary.

Dr. Burge introduced a physician who has contributed many years of dedicated service to the Arkansas Medical Society. Alfred Kahn, Jr., of Little Rock, has served as editor of the Journal of the Arkansas Medical Society since 1956. He has given the Society thirty years of outstanding service in this capacity. He has asked that he not be reappointed to the position of editor after this year. Dr. Kahn came forward to receive his plaque of appreciation.

Dr. Burge asked to say a few words about a colleague. "This person has long served you in organized medicine, he has served you in this organization as a delegate in the House, as your Vice Speaker, Speaker, as Chairman of the Council, and as your Executive Vice President. He has served the AMA as an Alternate Delegate, a Delegate and a member of the AMA Council on Rural Affairs. The gentleman I am referring to is Dr. C. C. Long. Dr. Long, would you please come forward? Dr. Long, on behalf of the members of the Arkansas Medical Society, I would like to bestow upon you the title of Honorary Past President. This plaque is also evidence of our appreciation." Dr. Long expressed his appreciation and thanked the Society for the opportunity provided allowing him to serve organized medicine.

Dr. Burge asked all past presidents to come to the stage and stand behind the head table for the inauguration of the new president. Dr. Lilly was asked to stand and Dr. Burge administered the oath of office and presented him with the gavel. He congratulated him and turned the proceedings over to Dr. Lilly.

President Lilly introduced the ladies on the staff in the Fort Smith office whose Society employment ended with the move of the headquarters to Little Rock. Each received gifts from the Society. Their positions and beginning employment dates were: Debbie O'Bar, Membership Secretary, November 1984; Vicki Hurst, Word Processing Secretary, December 1981; Ann Lansdell, Bookkeeper, January 1979; Peggie Branham, Secretary, March 1969; Dorothy Edwards, Senior Secretary, September 1967; Leah Richmond, Associate Executive Vice President, November 1952.

President Lilly introduced his family and special guests: his wife Iris; his mother, Mrs. Margie Lilly; daughter, Kim; son, Ken; sister, Dr. Melba Hutsell; sister, Shirley and her husband, Bill Clark; Iris' sister Betty and her husband, the Reverend Joe Atchison; Dr. Amail and Ann Chudy of North Little Rock; Roy and Sally Gean, Fort Smith; Dr. Morton Wilson and his daughter, Christy, of Fort Smith; Juanita and George Whaley of North Little Rock; Imogene and Ray Denton of Little Rock; Dr. Richard Pearson and his daughter, Annette, of Rogers; Dr. Kemal and Virginia Kutait of Fort Smith; Jim Fowler and wife, Kay Kutait Fowler; Kemal Kutait, Jr.; Dr. Ralph and Alice Ingram of Fort Smith; Dr. Wendell and Joy Ross of Fort Smith; and Dr. Randall and Denise Carson of Fort Smith.

President Lilly made his inaugural address. The address is printed in this issue of the Journal.

* * * *

REGISTRATION FIGURES
110th Annual Session

Physicians	337
Medical Students	16
Scientific Exhibitors (non-physicians)	62
Technical Exhibitors	181
Others	19
TOTAL	615

SCIENTIFIC EXHIBITS

The Society expresses its thanks to physicians who displayed exhibits and added to the educational benefit of the meeting. Presenting exhibits were:

Drs. Dale E. Johnson and James McDonald, Radiology Associates, P.A., "Carotid Duplex Doppler"

Drs. W. Ducote Haynes, Alvah N. Nelson, and Robert C. Langren, Radiology Associates, "Hyperthermia" and "Early Breast Cancer"

Drs. James D. Reynolds and James H. Landers, University of Arkansas for Medical Sciences and Arkansas Children's Hospital, "Retinopathy of Prematurity"

Drs. Jerry L. Prather and W. Turner Harris, Radiology Associates, "Osteoporosis Scanning—Dual Photon Bone Absorptimetry"

Drs. Jerry C. Holton, Radiology Associates, "Percutaneous Introduction of the Greenfield Vena Cava Filter"

Drs. H. Howard Cockrill and Robert W. Laakman, Radiology Associates, "Magnetic Resonance Imaging"

Janet Honeycutt, Executive Director of Arkansas Caduceus Club, "Arkansas Caduceus Club"

Ken LaMastus, Arkansas Medical Society, "Arkansas Medical Society Building"

Dr. John Crenshaw, Arkansas Society of Internal Medicine, "Arkansas Society of Internal Medicine"

Drs. Pat D. O'Donnell and Alex E. Finkbeiner, Department of Urology, University of Arkansas for Medical Sciences, "Clinical Trials of Behavioral Therapies for Incontinence"

Drs. Robert E. Casali, C. D. Williams, and Tom Hoffman, Vascular Labs of Arkansas, Inc., "Non-Invasive Vascular Studies"

Dr. Jack Diner, Department of Otolaryngology and Maxillofacial Surgery, University of Arkansas for Medical Sciences, "The Impression Method of Fitting Artificial Eyes"

Drs. Jack Diner and Nancy Snyderman, Arkansas Cancer Research Center, "Skin Cancer of the Head and Neck"

Drs. James Boger, David Hicks, Randy Jordan and Mr. David Foster, Richard D. Hall Cardiac Learning Foundation, "Harvey"

Mrs. Ramona Taylor and Mrs. Margaret Harris, Arkansas Medical Society Political Action Committee, "AMS-PAC"

Drs. Jere D. Guin and Susan B. Mallory, Department of Dermatology, University of Arkansas for Medical Sciences, "Reactions to Fragrance Materials"

Drs. William Chadduck and Ann Maners, University of Arkansas for Medical Sciences and St. Vincent Infirmary, "Stereotactic Interstitial Radiation for Primary Brain Tumors"

Dr. James Y. Suen, M.D., Department of Otolaryngology and Maxillofacial Surgery, University of Arkansas for Medical Sciences, "Orbital Decompression for Exophthalmos"

Jeanie Shook, University of Arkansas for Medical Sciences and John L. McClellan Memorial Medical Center, "Incentives on Aging"

Drs. Amer Z. Al-Juburi and John F. Cicmanec, Department of Urology, University of Arkansas for Medical Sciences, "Evaluation of the Curity Retrograde Contamination Guard (RCG) Urinary Drainage System to Prevent Catheter Associated Urinary Tract Infections (UTI)"

Edwina Walls, Rose Hogan, and Mary Ryan, University of Arkansas Medical Sciences Library, "National Library of Medicine"

Drs. Bernard W. Thompson and Robert W. Barnes, Department of Surgery, University of Arkansas for Medical Sciences and John L. McClellan Memorial Medical Center, "Stroke Prevention Strategies"

Dr. James Aronson and Barry Harrison, University of Arkansas for Medical Sciences, "Limb Lengthening by Spontaneous Osteogenesis"

Drs. Stephen J. Wetmore, G. Glen Fincher, and Stevenson Flanigan, Department of Otolaryngology, University of Arkansas for Medical Sciences, "Spontaneous CSF Otorrhea with Pneumocephalus"

Kathy Rateliff, Central Arkansas Radiation Therapy Institute, "Cancer Literature", "Hope Lodge—A Home Away From Home" and "CARTI—The Cancer Treatment Center of Arkansas"

David Wroten, Arkansas Medical Society, "Arkansas Medical Society and American Red Cross Blood Drive"

Drs. David Fried, Raymond Peeples, J. P. Bell, Karlton Kemp, and J. D. Patterson, D.D.S., Arkansas Baptist Medical-Dental Fellowship, "Baptist Medical-Dental Fellowship"

Teresa Crisco, Arkansas Chapter of the American Association of Medical Assistants, "American Association of Medical Assistants"

Drs. F. M. Henderson and Warren Bickerstaff, Health Management Associates, "Arkansas Correctional Health Services"

Drs. Homer L. Fleisher, III, Bernard W. Thompson, Timothy C. McCowan, Ernest J. Ferris,

Kenneth V. Robbins, and Robert W. Barnes, University of Arkansas for Medical Sciences and John L. McClellan Memorial Medical Center, "Angioscopically Monitored Saphenous Vein Valvulotomy"

Drs. Thomas L. Lange, Joanna Seibert, Teresita Angtuaco, and Susan Williamson, Department of Orthopaedics, University of Arkansas for Medical Sciences, "Visualizing Soft Tissue Tumors by Ultrasound"

Earl Wells, Carolyn Adcock, and Jean Philpott, Arkansas Social Security Office, "Social Security Needs Your Skills"

Dr. Timothy McCowan, Department of Radiology, University of Arkansas for Medical Sciences, "Laser Angioplasty"

TECHNICAL EXHIBITS

A. H. Robins Company
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Adria Labs
Alltel Mobile
American Medical International
American Physicians Insurance Exchange
American Teledata Corporation
Arkansas Army National Guard
Arkansas Blue Cross and Blue Shield
Arkansas Wheelchairs, Inc.
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* * * *

Winners of the cash prizes awarded in the Exhibit Hall were:

Robert McCrary
James Weber/A. S. Koenig
Robert Langston
Edgar Easley
Bruce Schratz
Jay Brainard
Jack Diner
James Guthrie

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MRS. ROBERT VALENTINE
PRESIDENT 1986-1987
ARKANSAS MEDICAL SOCIETY AUXILIARY

Arkansas Medical Society Auxiliary

Convention Report

On Thursday, April 17th, a pre-convention board meeting was held which was followed by an exchange workshop for all officers and committee chairmen.

On Friday, April 18th, the Opening General Session was presided over by President Ginny Blaylock. Addresses were given by Dr. John Dawson, Member of the Board of Trustees of the American Medical Association; Dr. John P. Burge, President, Arkansas Medical Society; Dr. Ken Lilly, President-Elect, Arkansas Medical Society; Dr. C. C. Long, Executive Vice President; Arkansas Medical Society; Ken LaMastus, Executive Vice President Designate and Mrs. W. Arnold Pitchford, Director, American Medical Association Auxiliary.

A noon luncheon was held jointly with the Society. The Honorable Dale Bumpers, United States Senator from Arkansas, was the featured speaker. A legislative workshop was held in the afternoon by Nancy Kintzel from the American Medical Association. The evening ended with a Chocolate Charmer Party, honoring Mrs. Frank Morgan and Mrs. W. Arnold Pitchford.

The Second General Session on Saturday morning featured addresses by Mrs. Frank Morgan, President, Southern Medical Association Auxiliary and David Wroten, Arkansas Medical Society.

A noon luncheon at Les Saisons at Pavilion in the Park featured a style show from Belle Tournure. Mrs. C. D. Williams served as commentator. The afternoon was filled with shopping in the Pavilion mall.

On Sunday, April 20th, a post convention board meeting was held. New officers, chairmen, county presidents and president-elects attended.

The total number of Auxilians to register, 105.

The 1986-1987 officers for the Arkansas Medical Society Auxiliary are as follows:

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PAST PRESIDENTS OF THE ARKANSAS MEDICAL SOCIETY AUXILIARY
(Front row, left to right) Mrs. Warren Boop, Mrs. Deno Pappas, Mrs. Herbert Taylor, Mrs. Paul Cornell. (Second row, left to right) Mrs. Gordon Oates, Mrs. Walter Mizell, Mrs. Mason Lawson, Mrs. John McCollogh Smith, Mrs. Raymond Peeples, Mrs. Carl Parkerson, (Last row, left to right) Mrs. Lynn Harris, Mrs. A. S. Koenig, Mrs. Harold Langston, Mrs. Frank Morgan, Mrs. Charles Wilkins, Mrs. Louis Hundley, Mrs. Curry Bradburn, Mrs. Kemal Kutait, Mrs. Art Martin.



Mrs. Jerry Blaylock, President 1985-86, presented the gavel to Mrs. Robert Valentine, President 1986-87.



Mrs. Robert Valentine and Mrs. William Steele.



Mrs. W. Arnold Pitchford, Director, American Medical Association Auxiliary; Mrs. Robert G. Valentine, Arkansas Medical Society Auxiliary President; Dr. John Dawson, Board of Trustees, American Medical Association; and Mrs. Frank Morgan, President, Southern Medical Association Auxiliary.



Mrs. Walter Mizell, Mrs. Deno Pappas, Mrs. Frank Morgan and Mrs. Raymond Peeples.

























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Voluntary political contributions for ARK-PAC and the American Medical Political Action Committee may be sent to ARK-PAC, Post Office Box 5776, Little Rock, Arkansas 72215. Sustaining membership of $99 is suggested; other membership classifications are $65 for Family Membership (physician and spouse) and $40 for a Regular Individual membership.

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Tics and Tourette's Syndrome: A Review

Robert C. Woody, M.D., and Mark Laney, M.D.

The diagnosis of Tourette's Syndrome, a rare, compulsive, and often disabling childhood movement disorder, has increased in the past decade. This largely has been a result of public education provided by lay groups concerned about Tourette's Syndrome. Inevitably, however, children with tic disorders milder than Tourette's Syndrome have also received this diagnosis inappropriately and have been prescribed possibly hazardous psychotrophic drug therapy. This review article will discuss the distinction between tics and Tourette's Syndrome, emphasize accurate diagnostic criteria, potential therapies, and prognoses of each disorder.[2,4]

CRITERIA FOR DIAGNOSIS

Tic disorders are common problems in boys between the ages of 5 and 10 years old. The occurrence of tics is distinctly uncommon in girls, although they may occur. Tics are best defined as simple "habits" manifested by repetitive, stereotypical motor activity. Examples of tics include flinging the hair off the brow, lid blinking, shoulder shrugging, repetitive eye deviation, sucking of the cheeks, repetitive coughs, throat clearing, etc. "Simple" tics normally consist of a solitary motor habit. "Complex" tics consist of a series of initial simple tics, one appearing after the first has disappeared or is diminishing. The diagnostic criteria for transient and chronic tic disorders from the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) published by the American Psychiatric Association are reviewed in Tables 1 and 2.

TABLE 1
DSM-III DIAGNOSTIC CRITERIA FOR TRANSIENT TIC DISORDER[1]

A. Onset during childhood or early adolescence.
B. Presence of recurrent, involuntary, repetitive, rapid, purposeless, motor movements (tics).
C. Ability to suppress the movements voluntarily for minutes to hours.
D. Variation in the intensity of the symptoms over weeks or months.
E. Duration of at least one month but not more than one year.

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TABLE 2
DSM-III DIAGNOSTIC CRITERIA FOR CHRONIC MOTOR TIC DISORDER[2]

A. Presence of recurrent, involuntary, repetitive, rapid, purposeless movements (tics) involving no more than three muscle groups at any one time.
B. Unvarying intensity of the tics over weeks or months.
C. Ability to suppress the movements voluntarily for minutes to hours.
D. Duration of at least one year.

Tourette's Syndrome begins in the same age group as simple or complex tics, nearly always in males. Once again, females may have this disorder, but only occasionally. Tourette's Syndrome not only consists of complex tics of prolonged duration, but also of disturbing vocalizations frequently including throat clearing, coughing, grunting, snorting, hissing, etc. Occasionally these vocalizations are coupled with coprolalia, explosive outbursts of foul language, and may be associated with copropraxia and repetitive productions of foul gestures. Other associated features include obsessive compulsive behaviors such as ritualistic patterns of bathing or eating and impaired social interactions in which obnoxious behaviors prevent the establishment and maintenance of close personal contact with friends and family. A feature characteristic of Tourette's syndrome is the curious ability of many patients to suppress their tics while in the presence of medical personnel, then explode with coprolalia, complex tics, and vocalizations on leaving the medical office. This peculiarity may lead to an underestimation on the physician's part of the severity and significance of his patient's Tourette's Syndrome. A compilation of symptoms from 80 Tourette's syndrome patients is summarized in Table 3.[2] The DSM-III criteria for diagnosis of Tourette's Syndrome are noted in Table 4.

Other disorders which might be confused with tics and Tourette's Syndrome include focal motor or complex partial seizures, Sydenham's chorea, Wilson's disease, or other movement disorders of children. An accurate history of the current medical illness and observation of the movements effectively exclude the possibility of seizures, while the

TABLE 3
SYMPTOMS OF 80 PATIENTS WITH TOURETTE SYNDROME[2]

Symptom	Percent
Motor Tics	
Head and face	90
Eye blinking	73
Arm and leg	53
Trunk and neck	45
Compulsive Symptoms	
Touching	45
Sterotyped movements	40
Smelling or biting	26
Copropraxia	11
Echopraxia	1
Vocalizations	
Inarticulate	66
Sniffing, coughing, throat clearing	53
Explosive	25
Animal-like	15
Coprolalia	31
Palilalia	20
Echolalia	19
Other words	8

TABLE 4
DSM-III CRITERIA FOR TOURETTE'S SYNDROME[1]

A. Age at onset between 2 and 15 years.
B. Presence of recurrent, involuntary, repetitive, rapid, purposeless motor movements affecting multiple muscle groups.
C. Multiple vocal tics.
D. Ability to suppress movements voluntarily for minutes to hours.
E. Variations in the intensity of the symptoms over weeks or months.
F. Duration of more than one year.

quality of the movement disorder in most cases, distinguish these from tics or Tourette's Syndrome. Conceivably, Sydenham's chorea cases may have not only chorea, but also significant neuropsychiatric disturbances including anxiety, depression, and explosive outbursts. These might reasonably need to be differentiated from tics or Tourette's Syndrome. In essence, however, the differentiation of tics, Tourette's Syndrome and other movement disorders of childhood is provided by an accurate history, observation of the disorder, and longitudinal followup to observe the natural history of the disorder.

It should be noted that generally, tics, either simple or complex, are self-limited while Tourette's Syndrome progresses over several years. This differentiation often becomes the basis of accurate diagnosis. Prognosis is discussed later in this article.

POTENTIAL THERAPY

The therapies of tics and Tourette's Syndrome are different. Whether or not any psychological or pharmacologic therapy is used for tic disorder, eventually all tics tend to disappear over a period of time. Anxiety and/or depression frequently is the substrate inciting the habit. The most effective therapy for tics involve the family identifying the stress situations initiating anxiety or depression, and attempting to correct them. Insight into the basis for the tic disorder is reassuring to the patient with tics and his family. Significant anxiety and depression, however, may need specific pharmacologic treatment with benzodiazepines or tricyclic antidepressants for defined periods of time, coupled with appropriate psychotherapy.

Tourette's Syndrome is a continuum of clinical features. Not all children with the label of Tourette's Syndrome require medical therapy. When symptoms become disabling, however, specific drug therapy typically is initiated with haloperidol (Haldol). Initial doses of 0.5 mg to 1 mg are given twice a day and gradually increased over a period of time until acceptable therapeutic results are obtained or clinical toxicity is noted. Acute toxicity with haloperidol is typically marked by oculogyric crisis (dystonic movements of the eyes, neck, jaw, and shoulders), or excessive sedation, while long-term toxicity may include disabling and permanent tardive dyskinesia. The discontinuation of haloperidol in children may also precipitate Withdrawal Emergence Syndrome consisting of significant dystonic reactions. Rarely, laryngeal dystonia may cause airway compromise, and bone marrow suppression may occur in adults or children.

Other therapies for Tourette's Syndrome when haloperidol fails, as it does in 30 to 40% of cases, or when unacceptable side effects occur, include the use of clonidine (Catapres), or a newer butyrophenone, pimozide (Orap) which has recently been introduced as a potential alternative therapy for Tourette's Syndrome.[5]

PROGNOSIS

As stated earlier, tic disorders frequently spontaneously disappear within several weeks to

months, regardless of any therapy given. For that reason, no therapy with significant potential toxicity is probably justified in either simple or complex tic disorders. Frequently, the relief of stress in the environment is therapeutic and probably the preferred mode of therapy for these children. It is not possible to predict in any single child, however, if his simple or complex tics may progress into Tourette's Syndrome. For that reason, tic disorders in children should be followed by the physician and the family informed that a tic disorder may evolve into Tourette's Syndrome.

The prognosis of Tourette's Syndrome is difficult to establish. While 60 to 70% of the patients satisfactorily respond to haloperidol, and a portion of the remaining respond to alternative drug therapy such as a clonidine or pimozide, a reasonable proportion of patients appear intractable to medical therapy. The long-term followup of these children indicates that a portion will continue to have intractable movements disorders, vocalizations, and coprolalia. More recent data suggests that the majority of these patients have a marked reduction of tics in late adolescence and in the early third decade with a relatively good prognosis if secondary psychological factors do not impair the patient's social interactions.[3] Tourette's Syndrome patients seem prone to having secondary psychological problems because of impaired interactions with the family, school, and other social groups. The acceptance of the disorder, despite the results of medical therapy and the appropriate treatment of primary or secondary symptoms is essential to produce a good result at the end of adolescence.

CONCLUSION

The accurate assessment of boys with movement disorders is simple and based largely on the history of the present illness, past medical history, and family history. If compulsive tics, coprolalia or obsessive compulsive behavior is witnessed, the diagnosis of Tourette's Syndrome is strengthened. More short-lived or isolated tic disorders, without significant altered neuropsychiatric or behavioral states, suggests the diagnosis of tic disorder rather than Tourette's. The practical importance of this diagnostic distinction is that psychopharmacologic treatment is indicated in moderate to severe Tourette's Syndrome, while simple or complex tic disorders frequently are best managed by psychological or other social and environmental manipulations.

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1. Diagnostic and Statistical Manual of Mental Disorders (DSM-III) American Psychiatric Association, 73-77, 1980.
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4. Butler, I. J.: Tourette's Syndrome: Same New Concept *Neurologic Clinics* 2:571-580, 1984.
5. Shapiro, A. K., and Shapiro, E.: Controlled Study of Pimozide vs. Placebo in Tourettes' Syndrome. *Am. Acad. Child Psych.* 23:161-173, 1984.

Alternatives to Ileostomy in 1986*

Stanley M. Goldberg, M.D., F.A.C.S.**, and Carol-Ann Vasilevsky, M.D.***

For patients with ulcerative colitis and familial polyposis who require surgery, the 1980's mark an exciting development with the emergence of ileoanal pouch procedures. While eradicating all disease-bearing tissue, they succeed in sphincter preservation and thus in anal continence, obviating the need for permanent ileostomy.

Restorative proctocolectomy with ileal reservoir is not, for all intents and purposes, a new procedure. Historically, it has evolved from the merger of two concepts.[1] Initially reported in 1947 by Ravitch and Sabiston,[2] the procedure consisted of total abdominal colectomy and mucosal proctectomy with straight ileoanal anastomosis. Significant problems with increased frequency of defecation and perianal excoriation led to its abandonment[1] and to the realization that lack of a reservoir to impede the rapid flow of ileal contents into the anal canal was a major contributor to this problem. This resulted in several experimental procedures, the best known being the Kock continent ileostomy in 1969,[3] and finally in the concomitant use of a pelvic ileal reservoir with total abdominal colectomy, rectal mucosectomy and ileoanal anastomosis, as proposed by Parks and Nicholls in 1978.[4] Since its inception, however, several technical modifications have evolved.

Ulcerative colitis and familial polyposis are primarily the two conditions for which restorative proctocolectomy should be considered.

Ulcerative colitis usually assumes a chronic course adequately managed by medical therapy until an intervening complication ensues which necessitates surgery. This may include chronic steroid dependence, resulting in cessation of adolescent growth, failure of medical measures to circumvent either chronic, unrelenting disease, an acute fulminating attack which may occur 13%-25%[5] of the time or the presence of dysplasia or malignancy, with the risk of the latter reaching 35% at 30 years of disease.[6]

Familial polyposis, an autosomal dominant disorder associated with the development of multiple colonic adenomas, as well as extracolonic manifestations, bears a distinct incidence of colorectal carcinoma, ranging from 9.2% at five years,[7] to 100% at 30 years of disease.[7]

Since surgery is curative in ulcerative colitis, and it effectively removes all diseased, potential cancer-bearing bowel in both diseases, it should not be delayed as a last resort to the point of patient debility. In the past, the fear of permanent ileostomy deterred patients from seeking surgical treatment at an earlier stage in their disease. It is due to this physical and psychological deterrent that continence preserving procedures have emerged.

SURGICAL OPTIONS

When an indication for operative intervention does exist, several surgical options are presently available. The most currently practiced ones include: 1) total proctocolectomy with Brooke ileostomy; 2) total abdominal colectomy with ileorectal anastomosis; and 3) total abdominal colectomy with ileal pouch reservoir. These will be discussed in more detail.

1. Total Abdominal Colectomy with Brooke Ileostomy

This procedure involves the removal of the entire abdominal colon and rectum with the establishment of a permanent ileostomy. It serves as the gold standard to which all other procedures must be compared. It is curative for ulcerative colitis and eliminates the risk of developing colorectal carcinoma in familial polyposis. It is not, however, a benign procedure. Mortality rates range from 1.6% to 23% under elective and emergent conditions.[8] Significant morbidity, ranging from 18.8% when performed electively,[8] to 40% in emergency situations, has been reported.[8] The problems encountered most frequently include unhealed perineal sinuses, sexual and bladder dysfunction and intestinal obstruction.[8]

Since the indications for this procedure primarily affect the young, the resultant permanent ileostomy is often found to be unacceptable. Although studies have revealed that 90% of

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ileostomates enjoy a good quality of life,[9] surveys have also shown that the presence of a stoma may alter sexuality[10] and may result in depression, social inhibition and isolation.[1,11] These psychological effects tend to be more pronounced in patients with familial polyposis since, unlike their ulcerative colitic counterparts, they are frequently asymptomatic preoperatively.

2. Total Abdominal Colectomy with Ileorectal Anastomosis

This procedure also entails the removal of the abdominal colon but retains the rectum and, therefore, the anal sphincters, thus avoiding permanent ileostomy. Besides the latter, the other significant advantages include minimal sexual or bladder dysfunction because of less extensive pelvic dissection, avoidance of perineal wound problems and the relative technical ease with which it can be performed.[9] Among its important disadvantages are the distinct risk of developing carcinoma in the remaining rectal segment which, for ulcerative colitis, ranges from 0 to 5.9%[9,11-15] over a 20 year follow-up period and from 0 to 22%[7] for familial polyposis. This, therefore, necessitates lifelong surveillance. In ulcerative colitis, disease recrudescence may result in poor rectal function with incontinence or intractable diarrhea and a failure rate ranging from 13% to 40%,[9,11-15] eventually necessitating diverting ileostomy or proctectomy (Table 1). This procedure should only be considered in the mature, psychologically stable individual with good anal sphincter function and a distensible rectum with only mild to moderate disease.[9] A fibrotic rectum or one demonstrating dysplastic changes on biopsy is unsuitable, which helps to explain why only 25% were regarded as suitable candidates in one study.[9] Mortality rates range from 0 to 3.4%[9,12-14,16] and anastomotic leak rates of 2%-14%[11-14] have been reported. Satisfactory results are obtained with 80% having four bowel movements per day,[9] and 80%-95% appreciating an improved quality of life.[9]

TABLE 1
RESULTS OF ILEORECTAL ANASTOMOSIS

Author	No.	Leak	Mortality	Cancer	Failure
Gruner, 1975[15]	57	—	—	5.3%	40%
Baker, 1978[13]	374	—	2.6%	5.9%	13%
Farnell, 1980[14]	63	—	3.2%	0	23%
Grundfest, 1981[12]	89	—	0	4.8%	21%
Oakley, 1985[9]	145	2.1%	1.4%	3.7%	27%

The acquisition of increasing expertise with the pelvic reservoir procedures, however, will probably result in a decreased number of patients undergoing ileorectal anastomosis.[11] The true place of this procedure in the surgical armamentarium remains controversial in view of the ever present risk of carcinoma. It is possible that this will serve as a temporary measure since, should failure ensue, other surgical options still remain as viable alternatives.

3. Ileoanal Pouch Procedure

This procedure entails five steps which include: 1) total abdominal colectomy; 2) rectal mucosal stripping; 3) ileal pouch reservoir; 4) ileoanal anastomosis; and 5) diverting ileostomy.

Stripping the rectal mucosa from the underlying sphincter muscle allows a framework to remain permitting the preservation of continence. Under normal circumstances, restorative proctocolectomy is undertaken in two stages with the first consisting of the aforementioned four steps, followed by ileostomy closure as a second stage.

Primarily indicated in ulcerative colitis and familial polyposis, it is contraindicated in Crohn's disease because of the risk of disease recurrence or anastomotic dehiscence,[1,11,16-19] and in those with anal incontinence or poor anal sphincter function.[1,11,16-19] It should not be contemplated in patients older than 55 because of a weaker anal sphincter[1,16-19] or in the obese since a shortened, fat mesentery may make it technically difficult to allow an ileal pouch to reach the anal canal.[1,16-19] Patients with colorectal carcinoma, as well as the emotionally deprived, do not constitute suitable candidates; the latter, since postoperative rehabilitation requires considerable diligence and patience.[16]

Various technical modifications have evolved particularly with respect to pouch configuration. This may take the form of an "S" shape or triple limb ileal reservoir (Figures 1, 2),[1] a "J" pouch consisting of two ileal limbs (Figure 3)[20] or a dual limb lateral reservoir (Figure 4).[21] Of all the varying designs described, each has its advantages and disadvantages, and none has been shown to be superior.[1]

Despite the euphoria expressed for this procedure, although associated with no mortality in any series, it is associated with significant morbidity as depicted in Table 2.

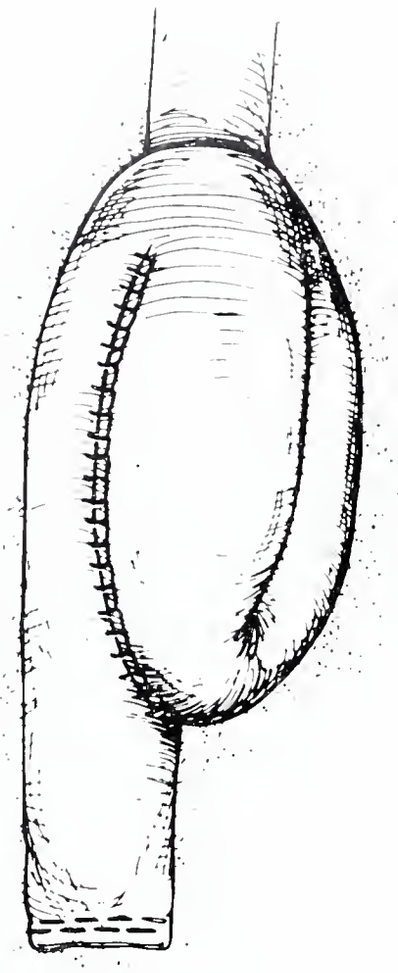


Figure 1.

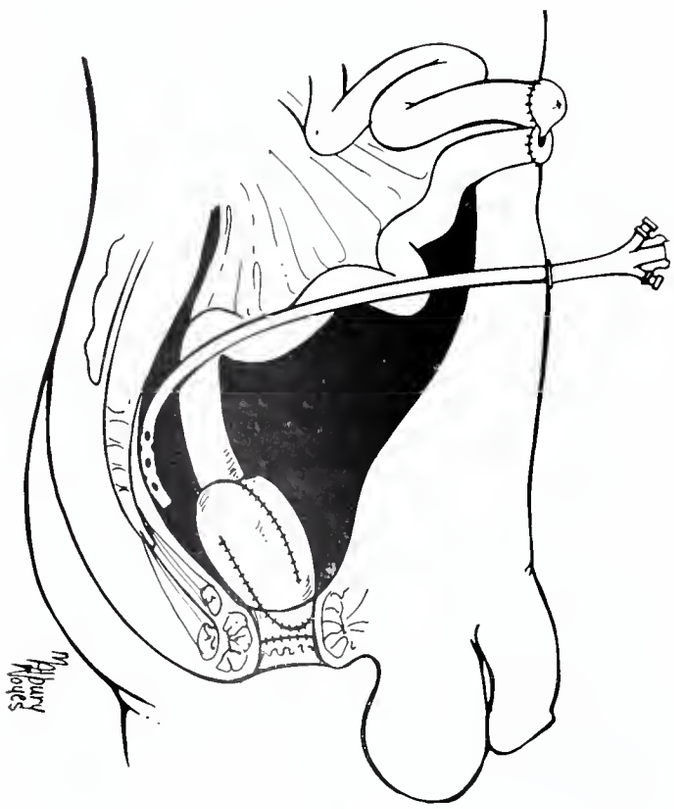


Figure 2.

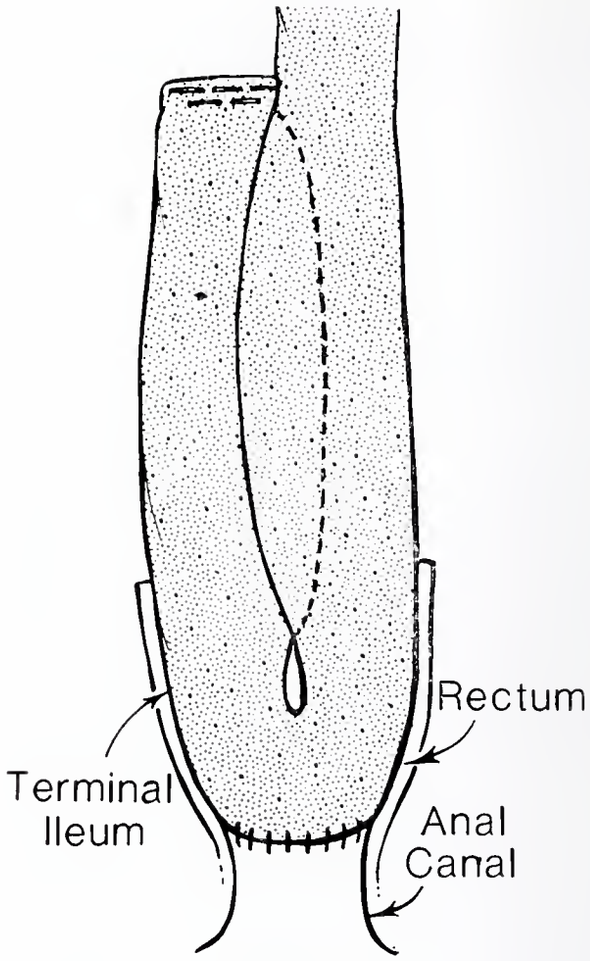


Figure 3.

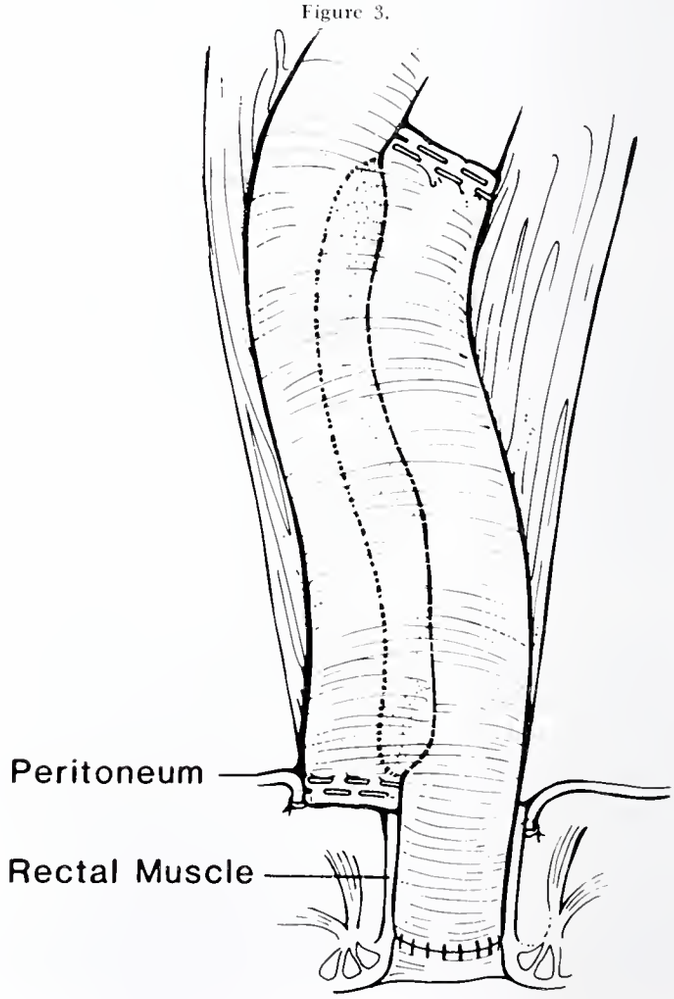


Figure 4.

Pelvic sepsis, the most devastating, occurs in 5%-24% of the patients,[19,22,23] and may result in a non-compliant pouch with ensuing incontinence. This may require pouch removal which occurred in 4%-6% of the series.[19,22,23] Intestinal obstruction is a frequent complication which occurred in 9%-17% of the cases,[19,22,23] and often requires laparotomy for resolution. "Pouchitis", or inflammation of the neorectal mucosa, occurred in 8%-32% of the time.[19,22,23] Manifested by diarrhea and fever, it usually responds to the administration of metronidazole. Though its etiology remains obscure, it has been observed with increased frequency in "S" and lateral reservoirs, lending speculation that stasis may be the basis for its existence.

The functional results are shown in Table 3. Initially, urgency and frequency of defecation are experienced following ileostomy closure. This is often alleviated with antidiarrheal medications and eventually regulates itself within 6-12 months postoperatively, so that patients usually pass six bowel movements per day regardless of pouch type. Most patients are able to evacuate spontaneously, although the need for intubation seems to be more prevalent in the "S" pouch. This problem, however, has since diminished with a decrease in pouch limb size and length of "spout" (efferent limb). Sexual dysfunction is not a significant problem, with the most frequent being retrograde ejaculation present in 0-9% of reports.[1,11,20] Nevertheless, despite these associated complications and the fact that they have to undergo two operative procedures, 93% of patients in our series have proclaimed satisfaction, and 87% have returned to work without significant problems. Similar satisfactory results have been reported by others.[16,19,22]

Physiologic studies of pouch function and sphincter musculature have demonstrated a decrease in resting anal pressure as long as one year postoperatively.[24,25] The recto-anal inhibitory reflex has also been shown to be abolished.[25] Both reflect impairment of the internal sphincter.[11] EMG studies have demonstrated normal external sphincter function[25] corroborated by manometric evaluation showing normal squeeze tone.[25] Thus, voluntary contraction of the external sphincter may explain why anal pressure remains higher than pressure in the neorectum.[11]

Considerable interest and curiosity have been aroused concerning the metabolic, physiologic and morphologic sequelae that occur following pouch construction and transposition to the

TABLE 2

MORBIDITY OF ILEOANAL POUCH PROCEDURES

	University of Minnesota—1985	Metcalf—1985[19]	Fonkalsrud—1985[22]	Nicholls—1984[23]
Pouch Type	S	J	Lateral	S
Number	115	188	78	66
Pelvic Sepsis	9%	11%	5%	24%
Bowel Obstruction	17%	9%	23%	9%
Failure	6%	5.3%	4%	5%
Pouchitis	30%	8%	32%	19%

TABLE 3

FUNCTIONAL RESULTS OF ILEOANAL POUCH PROCEDURES

	University of Minnesota—1985	Metcalf—1985[19]	Fonkalsrud—1985[22]	Nicholls—1984[23]
Pouch Type	S	J	Lateral	S
Number	68	157	77	55
#BM/24 hrs	6	6	6	3.7
Incontinence (day)	28%	25%	18%	5%
(night)	48%	47%	0	29%
Intubation	18%	0	0	53%

pelvis. Initial studies imply a similarity to the changes that have been observed in the Kock ileostomy.[24] Water and electrolyte disturbances are not generally apparent.[24] Borderline levels of vitamin B12 have been found,[23,24] as have several cases of fat malabsorption,[26] perhaps due to stasis and bacterial overgrowth resulting in bile acid deconjugation. Thus far, the only metabolic abnormality that has been observed in the pelvic reservoir itself is a decrease in serum iron, the significance of which is unknown.[24]

Morphologically, biopsies performed six months postoperatively have revealed villous atrophy[22,24] with submucosal infiltration of chronic inflammatory cells.[22] A concern regarding the possibility of rectal mucosal regeneration has been expressed. Heppell,[27] who reviewed several ileoanal anastomoses that had to be taken down, found islands of mucosa and anal glands in the resected specimens but concluded that full rectal mucosal regeneration does not occur. Nevertheless, long term follow-up is mandatory since the threat of dysplasia or malignancy persists in the small area of diseased mucosa which may be left behind at the dentate line.[16]

CONCLUSION

Although technical modifications continue to evolve, restorative proctocolectomy with ileoanal pouch reservoir will probably emerge as the procedure of choice in the surgical treatment of ulcerative colitis and familial polyposis. However, because of significant morbidity, it is not a procedure to be taken lightly and its use should, therefore, be restricted to carefully selected individuals. Long term effects on metabolic and physiologic function, cell morphology and continence, as well as the risk of dysplasia or ensuing malignancy, remain to be evaluated and mandate continued lifelong surveillance.

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Small Fenestra Stapedectomy

H. A. Ted Bailey, Jr., M.D., James J. Pappas, M.D., and Sharon S. Graham, M.A.*

In 1981, we published an initial report in the *Journal of the Arkansas Medical Society*[1] detailing the rationale, technique and results with our use of the small fenestra technique in stapedectomy surgery. The 1981 report was based on experience with 50 cases; we now have experience with over 225 cases. The small fenestra stapedectomy technique is based on a rationale of creating a more effective acoustical mechanical transmission system, while reducing potential risks to the inner ear. Benefits of the small fenestra technique, as compared to total removal of the stapes, include improved post-operative hearing in the high frequencies of 2000, 4000 and 8000 Hertz; improved speech discrimination scores; reduced occurrence of serious sensorineural hearing loss; and reduced occurrence of vestibular disturbance.[2-3] Having now used the small fenestra technique since 1979, we have had the opportunity of following post-operative hearing results for up to six years in some patients. This experience has supported our earlier initial findings and, in addition, has shown that small fenestra results are well maintained over time.

Some form of stapedectomy continues to be the only treatment for otosclerosis, a disease affecting only the temporal bone, and primarily occurring in the area of the oval window around the stapes, resulting in fixation of this bone. The exact etiology of otosclerosis is still unknown. Stapedectomy offers the only opportunity to relieve the hearing loss which accompanies otosclerosis. Actually, 10% of the caucasion population is found to have otosclerosis at autopsy, while only 2% of the total caucasian population develops any clinical manifestation of the disease, primarily conductive hearing loss. Briefly, in normal circumstances, sound vibration strikes the tympanic membrane and is then transmitted through the three small middle ear ossicles, the malleus (hammer), the incus (anvil) and the stapes (stirrup). Fixation of the stapes by otosclerotic disease results in a loss of sound conduction across the ossicles into the fluids of the inner ear, thus the term, conductive hearing loss.

Conceptually, the small fenestra stapedectomy (SFS) technique differs from total stapedectomy technique in that in the SFS technique, the footplate or base of the stapes is not removed. A small fenestra (opening) is made into the center of the footplate. A piston type prosthesis is then attached to the incus and barely inserted into the fenestra. This piston then conveys vibrations from the drum, malleus and incus into the inner ear fluids. The major steps of the surgical procedure include: 1) The distance from the footplate to the undersurface of the incus is measured in order to determine the proper length piston prosthesis. 2) A fine sharp straight pick is used to make a tiny perforation in the center of the footplate, and this perforation is then enlarged using picks and hooks until the desired 0.8 mm diameter rounded fenestra is obtained. This size is just large enough to accept a 0.6 mm diameter piston prosthesis. 4) The arch or crura of the stapes is fractured. 5) The incudostapedial joint is then separated, and 6) the stapedial tendon is severed. 7) The fractured arch of the stapes is removed, resulting in an excellent view of the fixed but fenestrated footplate. 8) A piston prosthesis is then introduced, first guiding the distal end of the piston into the small fenestra in the footplate. The piston should extend into the inner ear only 0.25 mm below the surface of the footplate. Simultaneously, the hook portion of the piston is directed anteriorly onto the long process of the incus. 9) The hook of the piston is tightened onto the incus using a wire crimper, and 10) thin fascia taken from a small incision in the temporal muscle, is placed around the piston to seal off any remaining opening into the middle ear. (See Figures 1, 2 and 3)

Stapedectomy surgery is generally performed under local anesthesia, which allows immediate intraoperative and postoperative assessment of hearing function as well as any evidence of balance disturbance. The use of the small fenestra technique has allowed most of our stapedectomy cases to be done in an outpatient surgery setting. The patient is released to home on the same day; or in out-of-town cases, the patient spends the night in a motel.

One advantage of the small fenestra technique is that if the surgeon is unable to satisfactorily create a small fenestra in the footplate, he or she may then make a larger opening, as was often done

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in past years, and still expect a satisfactory hearing improvement, but less than optimal result. In each operative case, the surgeon can begin the procedure with the goal of performing the small fenestra technique, which we consider to provide the optimal hearing result and at the same time to entail less risk to hearing and balance.

The small fenestra stapedectomy technique corrects the conductive hearing loss at all frequencies. Previously, with our use of total stapedectomy techniques, we were not obtaining optimal hearing results in the higher frequencies. Speech science studies have shown that hearing in the range from 2000 to 6000 Hertz is relied upon for discrimination of speech in the presence of background noise. Thus the significant gain that small fenestra cases obtain in the higher frequencies is very important for the patient's ability to distinguish speech in difficult listening environments where background noises are prevalent.

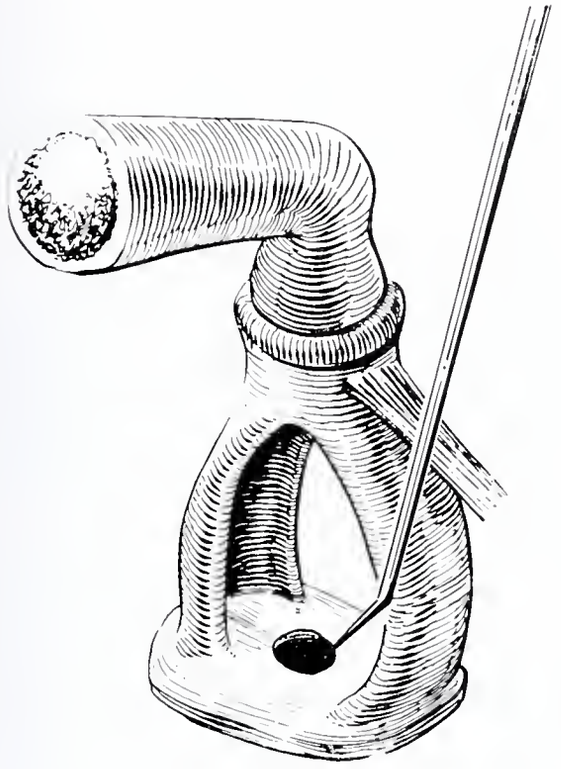


Figure 1.

A perforation is made in the center of the footplate and enlarged to 0.8 mm diameter.

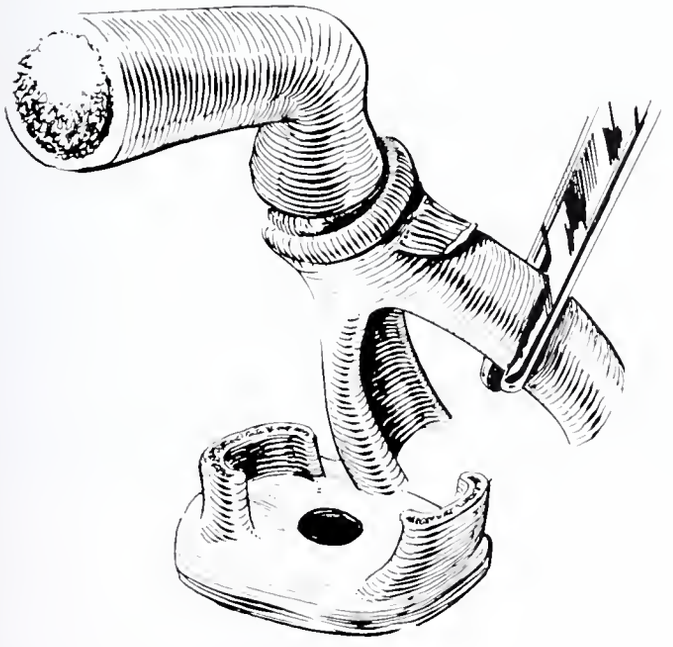


Figure 2.

The superstructure of the stapes is removed, leaving the fixed, perforated footplate in position.

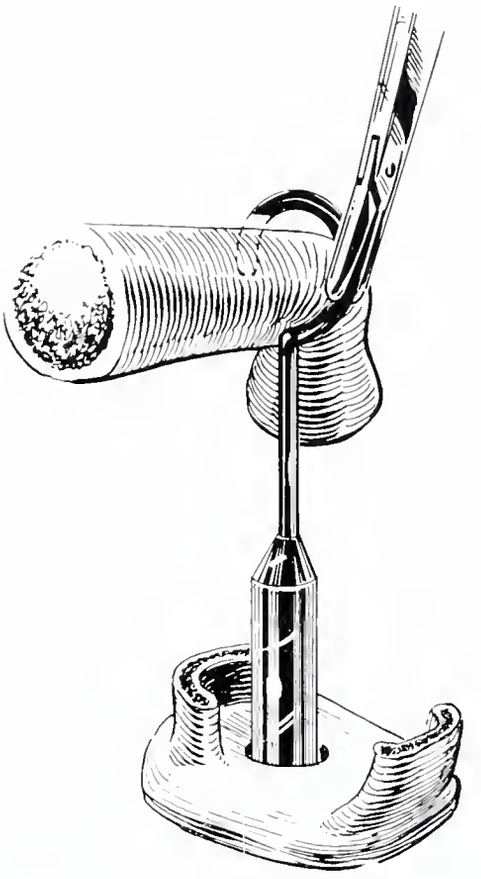


Figure 3.

A piston prosthesis attached to the incus conveys sound (vibration) through the fenestra into the inner ear.

Complications resulting from the use of the small fenestra technique compare quite favorably with complications resulting from partial or total stapedectomy. The most devastating complication, of course, is serious sensorineural hearing loss, defined as a drop of 20 decibels or more in the pure tone average and/or a drop of 20% or more in the discrimination score. In our small fenestra cases, there has been a 2% incidence of serious sensorineural loss, compared to 6% incidence of serious loss with our cases of total footplate removal. There has been no incidence of total loss with our use of the small fenestra technique and less than a 1% incidence of total hearing loss when using any of our total footplate removal techniques. There has been a 3.9% incidence of recurrent conduction loss due to

cases involving improper selection of prosthesis lengths, bony closure, and incus necrosis. There has been no incidence of perilymphatic fistulas with the use of the small fenestra technique.

SUMMARY

Otosclerosis results in fixation of the stapes in the oval window, preventing proper sound conduction. Stapedectomy surgery is the only treatment for correction of this hearing loss. The senior author has had over 27 years experience, including 5000 stapedectomy cases. With this experience, the advantages seen in the newer technique, the small fenestra technique, have been immediately evident. These advantages include: 1) Less risk to hearing and balance structures; 2) optimal hearing gain at all frequencies; 3) potential for conversion to other stapedectomy techniques if the small fenestra technique cannot be accomplished; and 4) the small fenestra technique exemplifies the surgical maxim, "The least surgery necessary that accomplishes all operative goals provides the best chances for restoration and preservation of function."

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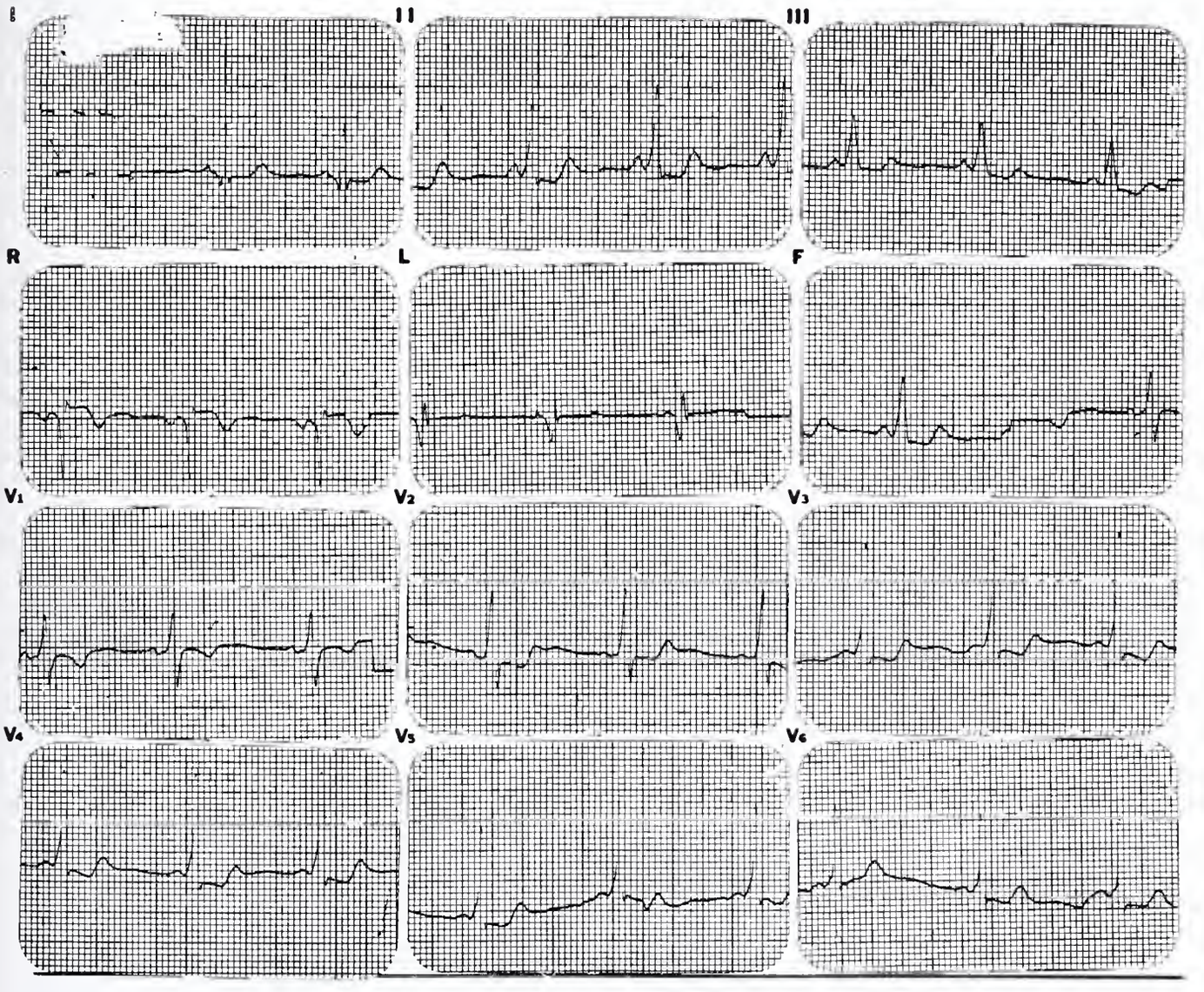
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ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 76)

HISTORY: P. L. is a 52-year-old woman who has presented with a 40 year long history of palpitations. Her physical examination is normal. Her ECG is shown. What do you think of the trace as potentially related to her symptoms?



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Orthopedic Trends

"There Is Nothing That Can Be Done"

R. Barry Sorrells, M.D.*

These are terrifying words to any patient with a known disease hoping for a "cure". Unfortunately, even in this age of "miracle medicine" we still must on occasion tell the patient, "there is nothing that can be done".

Joint arthroplasty, or total joint replacement, has revolutionized the field of reconstructive orthopedic surgery. Most of the advancements have occurred in the last fifteen years. It was the development of methyl methacrylate, or "bone cement", that made successful arthroplasty possible and predictable.

Charnley, in England, described hip joint fixation with methacrylate in 1960. Since that time refinements in technique and implants, and the application of biomechanical principles have resulted in a hip procedure that yields success rates better than 90 percent. Hip replacement has become a popular procedure, over 75,000 performed yearly in the United States; approximately 300,000 annually throughout the world.

Knee replacement, however, has not enjoyed the same success rate. Because of the more complicated joint biomechanics, the need for a more refined prosthesis, and less satisfactory postoperative results, some patients with severe knee deformity still hear the words from their doctor "there is nothing that can be done"!

The prime complication in knee arthroplasty surgery has been loosening at the bone-cement interface. Some series have reported as high as 25 percent loosening in a two year period. Most of these cases require re-operation. This loosening usually occurs in the tibial component and is a result of torque or rotational stresses that are imposed when a knee that should allow rotation is constrained by a prosthetic design that does not allow this motion to occur. The forces therefore are transmitted to the cement fixation and failure frequently occurs.

Since 1981 Little Rock Orthopedic Clinic physicians have been involved, along with fourteen other U. S. investigators, in the clinical evaluation of a revolutionary design knee replacement that mechanically relieves the torque stresses on the tibia. The tibial component utilizes a plastic bearing that allows rotation constrained primarily by soft tissue as in the normal knee, rather than by mechanical limitations. Because of this unique design, the FDA has required an intensive and well documented clinical study to assure the safety and efficacy of this design. This is the only knee replacement design to undergo such an evaluation. The New Jersey LCS™ knee has now been approved for use in the United States. The incidence of loosening in a four year follow-up is less than one percent. Knee replacement using this device now yields results comparable to hip replacement with greater than 90 percent good to excellent results. This "third generation" prosthesis also allows correction of severe knee deformities that previously were untreatable.

*Little Rock Orthopedic Clinic, 9500 Lile Drive, P. O. Box 5270, Little Rock, Arkansas 72215.

We are currently involved in a clinical research project to eliminate the need for methacrylate. A special porous metal surface on the bone contact side of the device allows bone and fibrous tissue to actually grow into the metal component, securely locking it into place. This eliminates the bone-cement interface where loosening so commonly occurs. Ironically we are attempting to eliminate the material (methacrylate) that made joint arthroplasty possible in the first place! This porous coated device is only available for use without cement by investigators. A review of results from the first two years experience in over eight hundred cases indicates even fewer complications than with cemented knees and a well founded expectation of longer life expectancy of the device once implanted. Good and excellent results have been tabulated in 92 percent of the patients, ranging from 21 years to 97 years of age. FDA approval for general use will hopefully be forthcoming in the near future.

The figures that follow are explained by their caption. They represent typical cases treatable with the LCS™ knee replacement system. Fortunately we now have few patients with knee arthritis we have to tell "there is nothing that can be done".



Figure 2 (A.C.)
AP x-rays Pre-op.



Figure 1 (A.C.)
Severe Valgus Deformity (weight-bearing) Right Knee.



Figure 3 (A.C.)
2 wks. Post-op Right T.K.A. (total knee arthroplasty).



Figure 4 (A.C.)
2 wks. Post-op Right T.K.A.

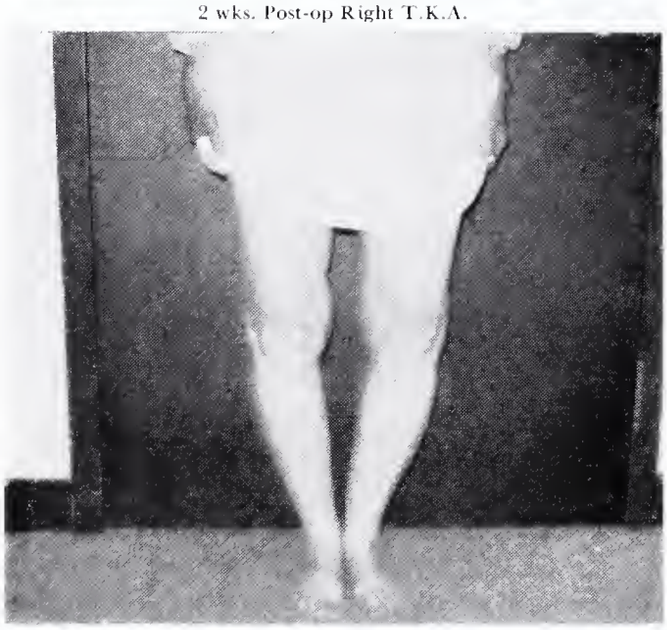


Figure 5 (P.C.)
Bilateral Varus Deformity.



Figure 6 (P.C.)
Post-op Bilateral T.K.A.

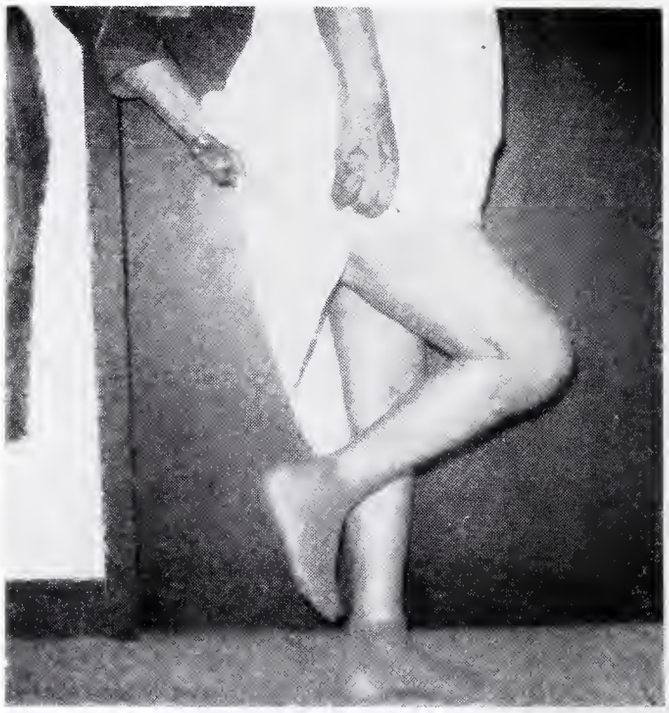


Figure 7 (P.C.)
Post-op Bilateral T.K.A.



Figure 8 (M.W.)
Varus Right Knee with Medial and Lateral Compartment Osteoarthritis.

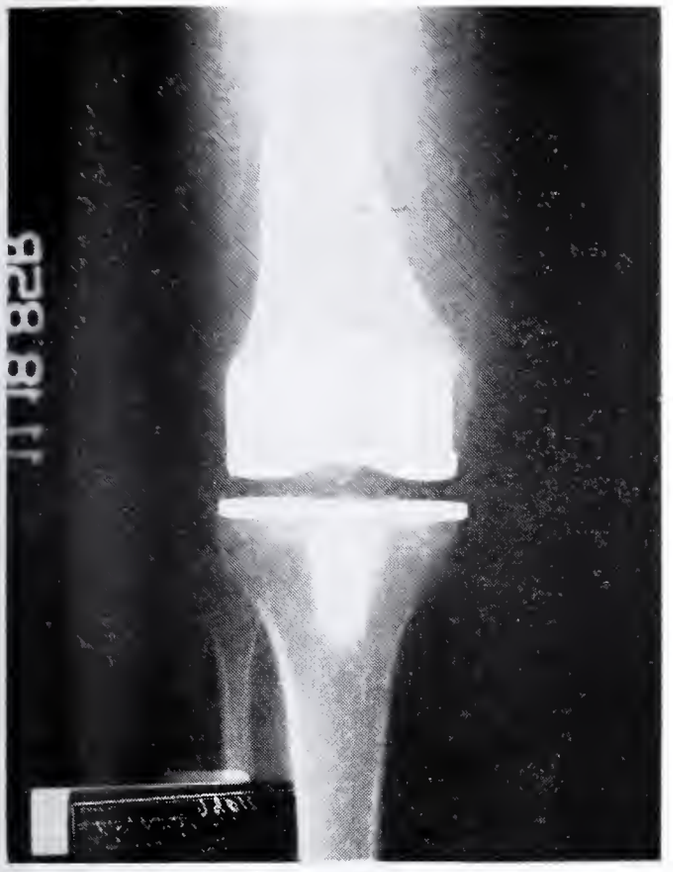


Figure 9 (M.W.)
Post-op non-cemented LCS™ T.K.A. AP x-ray.



Figure 11 (S.Mc.)
Valgus Right Knee with Lateral Compartment Osteoarthritis.

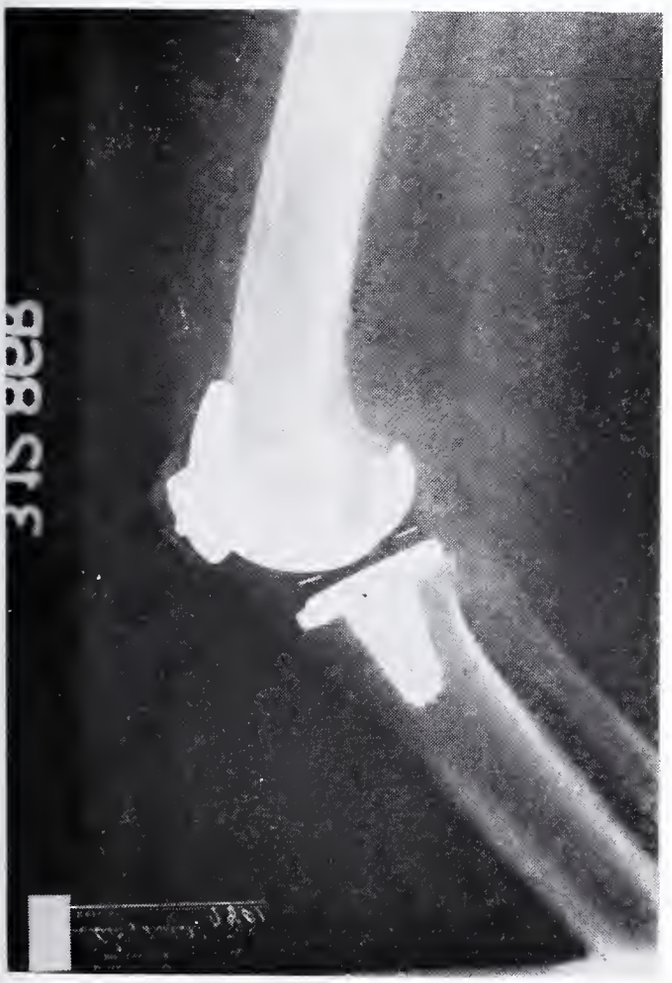


Figure 10 (M.W.)
Post-op non-cemented LCS™ T.K.A. Lateral X-ray.

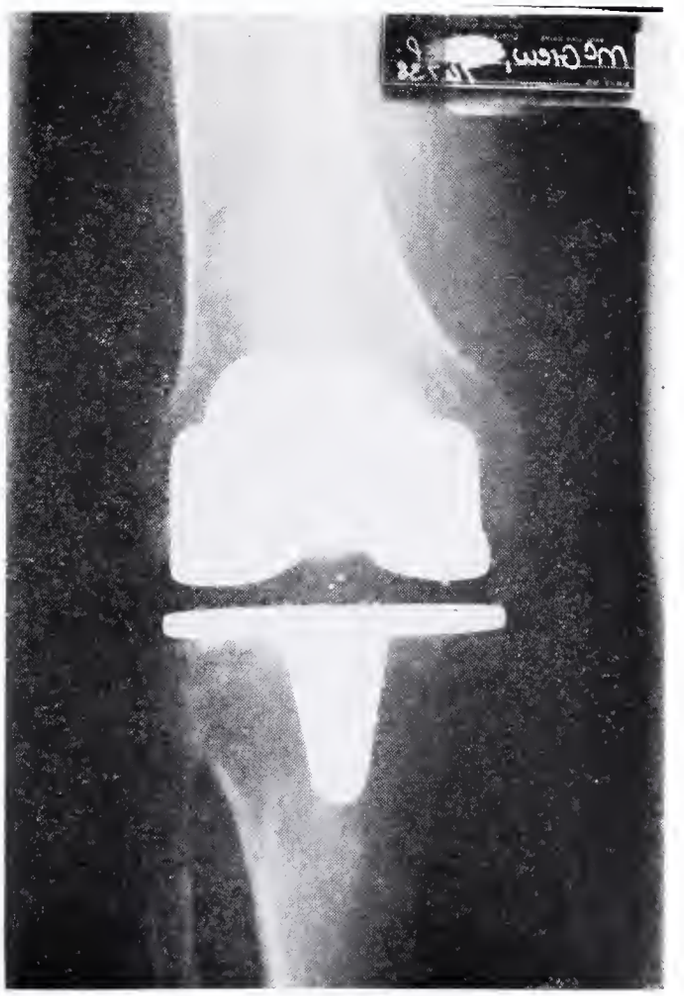


Figure 12 (S.Mc.)
Post-op non-cemented LCS™ T.K.A. AP X-ray.

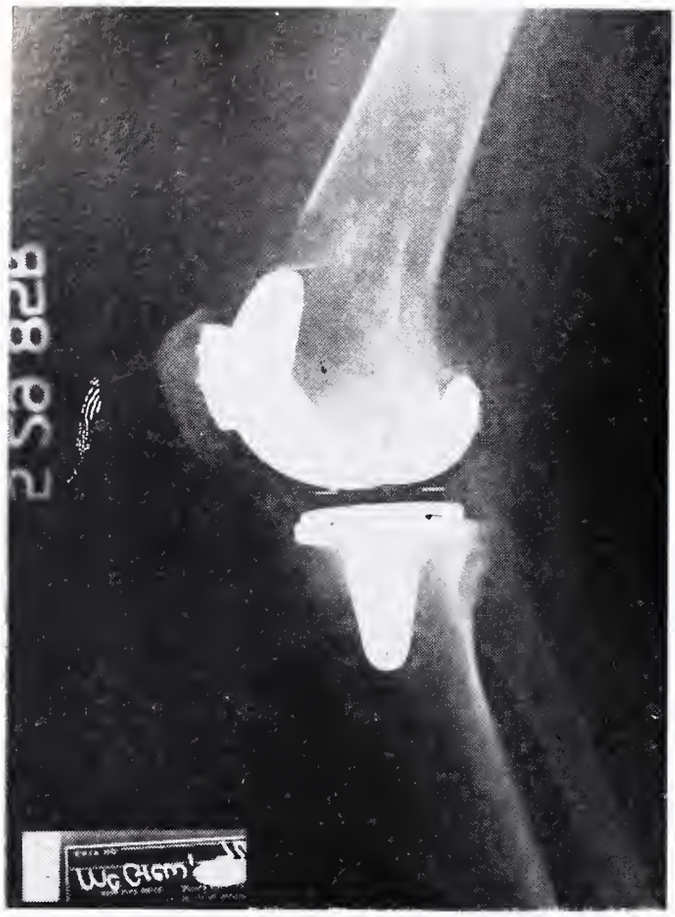


Figure 13 (S.Mc.)
Post-op non-cemented LCS™ T.K.A. Lateral X-ray.



Figure 15 (R.C.)
Post-op non-cemented LCS™ T.K.A. AP X-ray.



Figure 14 (R.C.)
Bilateral Rheumatoid Arthritis.



Figure 16 (R.C.)
Post-op non-cemented LCS™ T.K.A. Lateral X-ray.





Figure 17 (J.B.)
Failed (loosened) Right T.K.A.



Figure 18 (J.B.)
Post-op non-cemented, Bone Grafted, LCS™ Revisional T.K.A. AP X-ray.



Figure 19 (J.B.)
Post-op non-cemented Bone Grafted, LCS™ Revisional T.K.A. Lateral X-ray.



EDITORIAL

A New Treatment Vista for Diabetic Complications

Alfred Kahn, Jr., M.D.

Diabetes Mellitus is a very complicated disease and as many authors attest, the diabetic state probably represents a group of diseases. Each year more and more new information is available about diabetes and its complications. The *American Journal of Medicine* has published a symposium entitled "Diabetic Complications and the Role of Aldose Reductase Inhibition" (Volume 79, 5A, November 15, 1985). The symposium is edited by Rex S. Clements, Jr., M.D.

In Dr. Clements' introduction he designates the target areas for this symposium as the peripheral nerves and the eye; the study comprises an approach to the diabetic disorders to the nerves and eyes through examining three major abnormal metabolic pathways: increased sorbitol production, changed myo-inositol metabolism, and altered permeability of blood vessels.

The first article in the symposium is by Clements and Bell in which they relate "Complications of Diabetes—Prevalence, Detection, Treatment and Prognosis". The four major complications which tend to occur late in the course of diabetes mellitus that were studied by these authors were diabetes retinopathy and cataracts, renal disease as diabetic glomerulosclerosis, neuropathies, and large blood vessel disease. All of these disorders occur in a much larger percentage in diabetic cases than they do in individuals without diabetes. It is of particular interest that the retinal disorders seen in diabetes mellitus seems to relate to the blood sugar level. The authors site statistics which showed that if the blood sugar is well controlled, the number of patients with diabetic retinopathy is much less than in the group of patients in whom the blood sugar is poorly controlled. They do point out that once the retinopathy has appeared, good diabetic control apparently does not reverse the disorder. They recommend good diabetic control for patients with diabetic retinopathy and suggest that careful attention to coexisting high blood pressure be paid—and the use of aldose reductase inhibitors. Diabetic cataracts, according to Clements and Bell, are very prevalent in diabetic patients but the number of cases of cataracts does not relate to the degree of diabetic control as judged by hyperglycemia. It is again stated that aldose reductase inhibitors may have a value in preventing the progression of cataracts if they are detected early in their course. Diabetic nephropathy is usually due to micro-angiopathy; this may be progressive and it can lead to kidney failure, as is discussed by the authors. Diabetic nephropathy is present in a higher incidence in Type I diabetes than in Type II and more prevalent in insulin dependent diabetics than in non-insulin dependent diabetics. It is said that the principle means of diagnosing diabetic nephropathy is by the presence of abnormally large amounts of protein in the urine and the proteinuria has been documented to be due to "thickening of the tubular and glomerular capillary basement membranes, leakage of numerous proteins into the mesangial space, and obliteration of mesangial space. The authors indicate that the process is often not apparent for ten to fifteen years, and when it is detected it is far advanced and the patient may have a limited life span as a consequence. Here again it is stated that good control of the blood sugar levels tend to reduce the incidence of diabetic nephropathy; however, it appears that once diabetic nephropathy is well established, control of the high blood sugar alone without attention to infection and high blood pressure will not prevent further deterioration.

Diabetic nephropathy is said to be present in about half of the diabetic patients who have had the disease for thirty years. Clements and Bell state that diabetic neuropathy seems to be related to the diabetic control. They site the fact that ten percent of the well controlled diabetic cases get neuropathy, while up to seventy percent of the poorly controlled cases of diabetes may get neuropathy. The authors do not volunteer any statements as to the control of large vessel disease which occurs so frequently in diabetes mellitus. They state good control of the diabetes does not seem to relate to the advancement of retardation of degeneration of artery disease of the big vessels. Clements and Bell conclude their article by stating that there are four hypotheses which have been used to tie elevated blood sugar to the development of diabetic complications, "Hyperglycemia-induced increases in the activity of the polyol pathway within the cells of the target tissues and resultant abnormalities in the metabolism of myo-inositol and its phospholipid derivatives. In addition, hyperglycemia causes increased vascular permeability with a resultant leakage of potentially toxic materials into tissues. Finally, numerous proteins are glycosylated when exposed to elevated glucose concentrations, resulting in proteins with abnormal structures and functions."

Kador and Kinoshita have reviewed "The Role of Aldose Reductase in the Development of Diabetes Associated Complications". In their introduction they again project the idea that perhaps the diabetic complications are due to some disturbances involving the common denominator aldose reductase. They have presented a simple chemical description of this important pathway: Showing the interrelationship of aldose reductase and sorbitol dehydrogenase and the enzymes that compose the sorbitol pathway. They further state that the aldohyde form of glucose is converted to sorbitol and that sorbitol is later converted to fructose. Of particular interest is the fact that the high blood sugar due to diabetes leads to a larger than normal amount of sorbitol being found in the tissues. As a consequence of these findings, inhibitors of aldose reductase have been tried in an effort to diminish the use of the aldose reductase-sorbitol dehydrogenase pathway. The authors have described the so-called osmotic hypothesis of cataract formation. They state that the earliest change in cataracts seem to be the increase in water content of the lens fibers and this seemed to be the result of sugar alcohols (known as polyols) which act through osmosis. It appeared to them that in the presence of diabetes mellitus, there was more aldose reductase activity and as a consequence more sorbitol was formed. The sorbitol and other sugar alcohols make the inside of the fibers hypertonic and thus attract fluid. The over-hydration of the lens leads to chemical disturbances in the lens which are described in this article, and ultimately vacuoles form. The vacuoles increase in number and this causes the lens to become opaque. The opacity may be due impartially to other biochemical changes. Kador and Kinoshita report similar changes in animal and human lenses when they are cultured outside of the body. These studies indicated to them that it was the excessive hydration of the lenses resulting in vacuoles that cause the lenses to become cloudy. Of particular interest to the practicing physician is that studies show that animals with diabetes can be prevented from having cataracts—or at least the cataracts are diminished by the use of aldose reductase inhibitors. Kador and Kinoshita also support the idea that disturbance of the aldose reductase enzymes and the sorbitol pathway is involved in the production of diabetic neuropathy. The authors report that sorbitol accumulates in the nerves in the presence of diabetes; it is suspected that the Schwann cells are involved, as that is the location of aldose reductase in peripheral nerves. Here again it is said that the sorbitol causes an excessive hydration and may be the pathogenic factor in producing neuropathy. The biochemical changes which occur in nerves as a consequence of the altered sorbitol pathway can be prevented by use of appropriate aldose reductase inhibitors. Kador and Kinoshita feel that diabetic neuropathy may be a result of myo-inositol levels decreasing. Myo-inositol levels decrease and sorbitol levels go up in diabetic neuropathy. It is of particular interest that feeding myo-inositol on an experimental basis tends to be beneficial in experimental neuropathy under certain laboratory conditions. Lastly, the authors observe that there are other eye disorders than cataracts which are disburbanced in diabetes. They mention keratopathy, which seems to be susceptible to therapy with aldose reductase inhibitors; they also feel that retinopathy may in some way be related to the enzyme disorders discussed above.

In the same symposium, Douglas A. Greene and Sarah A. Lattimer have published an article entitled "Recent Advances in the Therapy of Diabetic Peripheral Neuropathy by Means of an Aldose Reductase Inhibitor". They indicate their goals of study best in their statement, "Recent animal and in vitro studies have identified several interrelated metabolic abnormalities in nerve, glomerulus, retina and arterial wall that are attributable to the elevated glucose concentrations; in particular, increased activity of the sorbitol pathway and decreased myo-inositol content seem to become manifest in these tissues as a reduction in sodium-potassium adenosinetriphosphatase activity occurs. This enzyme is crucial to the generation of the electrochemical potential necessary for nerve conduction . . ." They state that myo-inositol is important because of its function as a chemical constituent of cell membranes; they report that myo-inositol is decreased in the presence of diabetes mellitus but when insulin is given, the cell membrane content of myo-inositol can go back to the normal range. Greene and Lattimer indicate that in the presence of diabetes, the amount of sorbitol produced increases but in contrast to the condition found in the fibers of the eye, sorbitol does not seem to exert its deleterious in nerves by its osmotic effect —or if this is true, it is only to a minimal degree. One of the principle objective findings in diabetic neuropathy is the slowing of nerve conduction and the authors attribute this to the changes in myo-inositol content of the nerve and also to a change in the nerve sodium-potassium and adenosinetriphosphatase. They go on to state that aldose reductase inhibitors are effective in stopping the loss of myo-inositol from peripheral nerves in diabetes and also exert a beneficial effect on the sodium-potassium adenosinetriphosphatase activity. They specifically state that the aldose reductase inhibitors "influences the metabolism of myo-inositol through a mechanism other than aldose reductase inhibitors and their action in diabetic tissue is attributable, at least in part, to their effects on the myo-inositol related defect in sodium-potassium adenosinetriphosphatase." Of importance in understanding these relationships is the fact that insulin itself will not directly repair the sodium-potassium adenosinetriphosphatase error of metabolism in in vitro; however, as myo-inositol is given the defect is repaired. Greene and Lattimer have a very nice summary of their hypothesis of the diabetic neuropathy in which they state that hyperglycemia leads to decreased myo-inositol in the affected nerve but also alters several other intracellular functions including changes in the phosphoinositide metabolism, decreased protein kinase C activity and reduced sodium-postassium adrenosinetriphosphatase activity. One of the big problems is that once these defects set up, they may be self perpetuating in a cyclic fashion.

Michael A. Pfeifer has contributed to the same symposium. His article is entitled "Effects of Glycemic Control and Aldose Reductase Inhibition on Nerve Conduction Velocity". He summarizes some of the work done with sorbinil, which is an aldose reductase inhibitor. He relates in his summary that symptom-free diabetic patients can show an improvement in their peripheral nerve conduction time by better control of their diabetes and by the use of sorbinil; thus lending more support to the idea that the abnormal sorbinil (or so-called polyol) pathway is fundamental in the pathogenesis of diabetic neuropathy.

The last article in this symposium is by Jonathan B. Jaspan, Kevin Herold and Cynthia Bartkis, "Effects of Sorbinil Therapy in Diabetic Patients with Painful Peripheral Neuropathy and Autonomic Neuropathy". Early work has indicated that the use of aldose reductase inhibitors seems to reach its maximum effect in about three weeks. In the course of this study, patients were treated for six weeks taking sorbinil 250 mg. size tablets once per day. They used six men and five women; of these, seven were Type I diabetics and four were Type II diabetics. They were maintained on constant glycemic control. All of the patients had polyneuropathy and pain. The authors felt that sorbinil was capable of inducing "considerable relief of neuropathic pain in patients with diabetes". The authors also indicate that there was definite improvement in autonomic function on sorbinil therapy based on respiratory tests and basal minimal heart rates. One unfortunate effect of sorbinil is that it does have some toxic side effects including an erythematous rash which may appear with fever; it is said to disappear when sorbinil is discontinued.

The use of aldose reductase inhibitors appears to reveal a new vista in the treatment of complications of diabetes mellitus.

"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

William Jefferson Darby, Jr., M.D., Ph.D. — Nutritionist

Calvin Hanna, Ph.D.*

William Jefferson Darby, Jr. was born east of North Little Rock in Galloway on November 6, 1913. He attended Little Rock Junior College and then entered the University of Arkansas School of Medicine where he received a Bachelor of Science in Medicine in 1936 and a Doctor of Medicine in 1937. At the same time William (Bill) served as an Assistant in Physiological Chemistry, working under Paul Day, starting in 1930. Their first paper together was "Vitamin G (BA_2) in Fruits" published in 1933 in the *Journal of Home Economics*. After two years of teaching in Physiological Chemistry as a part-time instructor, Bill continued his education at the University of Michigan where he received a Master of Science in 1941 and a Doctor of Philosophy in Biological Chemistry in 1942. He then entered a period of research training at Columbia University, Vanderbilt University, North Carolina School of Public Health, and Duke University, completing his formal education in 1944. Dr. Darby began his academic career in Biochemistry at Vanderbilt University and in five years became Professor and Chairman of Biochemistry. When the Division of Nutrition was established in 1964, he also became Professor of Nutrition. William Darby was the President of Nutrition, Incorporated, of New York from 1972 through 1983. In 1979 he became Professor Emeritus.

The scientific endeavors of Dr. Darby are legendary in Biochemistry and Nutrition. He has published over three hundred reports including scientific papers, chapters in books, reviews, nutrition surveys of Ecuador, Ethiopia, Jordan,

*Departments of Pharmacology and Ophthalmology, University of Arkansas for Medical Sciences.



Lebanon, Nigeria and the Phillipines. His civic, professional and administrative activities involve all areas of our society. He has served his university, his government, private industry and numerous philanthropic organizations on behalf of human nutrition. He is recognized as this nation's leader in the field of nutrition and has received Doctor of Science degrees from the University of Michigan and Utah State University. He has co-authored four books on nutrition. These books are fascinating as they begin with a survey of the earliest recorded history. He serves as editor of Annual Review of Nutrition.

William Darby's ties with Arkansas have been continuous and strong; he was awarded the Distinguished Alumnus Award from our School of Medicine in 1957. His contributions and leadership in the field of human nutrition have touched, in one way or another, every worker in the health field over the past five decades. He was awarded an honorary Doctor of Science degree from the University of Arkansas in May of 1984.

ANSWER—Electrocardiogram of the Month

DISCUSSION: The trace shaws sinus rhythm. The PR interval is less than 0.12 secands. Praminent delta waves are nated in leads II, III, AVL, AVF, and fram V_1 through V_6. The short PR interval and the delta waves strangly imply Walff-Parkinson-White Syndrome, a "pre-excitation" state aften assaciated with palpitations and, cammanly, with rapid supraventricular tachyarrhythmia.

The editar wishes ta thank Dr. John Smith of Canway, Arkansas far his cantributian to this manth's feature.

MEDICINE IN THE NEWS

THE AAMA AND THE PHYSICIAN'S OFFICE
A Special Article by Lowell B. Robison, M.D.

I am making this presentation to you as the National Physician Liaison Chairman for the American Association of Medical Assistants. But I speak especially on behalf of the Arkansas Society and the local Arkansas Chapters. Many of you are probably aware of this organization and the fine work they have done over the years. For those of you who are not familiar with A.A.M.A., you should be informed of the fact that this represents one of the few Allied Health Professional Groups which fine focuses its interests on behalf of the physicians. Typically, A.A.M.A. members are employed in the offices of private physicians and through courses, workshops, and other forms of training offered by the A.A.M.A. become exceedingly proficient in performing their specific jobs and developing an awareness of the overall operation of the physician's office. They operate with the full endorsement of the American Medical Association. Members of this group typically are involved in clerical, administrative, and clinical activities. Indeed, these professionals are asked to sit for certification examinations initially, and then for periodic recertification. Those who pass the examination are given the title of CMA or Certified Medical Assistant. Beyond the scope of initial certification, the A.A.M.A. provides an ongoing program of continuing medical education for their members. As a service they also offer these courses for non-members.

The common thread of interest that binds the A.A.M.A. with all physicians, especially those in private practice, is the desire to provide a premium health care situation in the physician's office for the doctors and patients. Indeed, all of their educational activities are directed toward improvement of patient care. Oftentimes this takes

the form of improved efficiency of office management and in particular to certain details of office management with respect to third party billing and other insurance activities. There has been an acute awareness within the Association of the need for cost containment and also the problems of escalating malpractice. All of the A.A.M.A. members have received considerable instruction and training in these areas and come away considerably more knowledgeable than most other Allied Health Professionals.

I was privileged to attend their national meeting in Lexington, Kentucky in 1985. Again it was obvious at that meeting that a major thrust of their activity was to the maintenance of a high degree of professionalism in all of their activities. The leadership of the organization is strong and has a dramatic sense of the future direction of the private practice of medicine. One of their major areas of concern at this time is in the relatively new concept of marketing of medical practice and all of the problems inherent in developing this new concept of private practice.

In all I am extremely impressed with the activities of this group. I am proud to be associated with them, both on a professional basis and on the basis of my individual involvement with the organization formally. I would encourage each of you to have your employees investigate the A.A.M.A. chapter in their area. I am quite certain that they would be welcome to speak with the leadership and perhaps attend meetings and ultimately become a member. I am quite positive that a high degree of membership in A.A.M.A. amongst your employees can do nothing but enhance the professionalism and the productivity of your individual practice. I believe that you will find that as your employees become more involved with A.A.M.A., you will see a marked change in their approach to their work from a professional standpoint. It has been my impression that the goals and practices of A.A.M.A. employees are far closer to my personal goals and practices than is the case with non-A.A.M.A. employees.

* * * *

OLDER AMERICANS LIVING LONGER; FASTEST-GROWING SEGMENT IN SOCIETY

The American Council of Life Insurance (ACLI) released a study reporting that the number of older Americans, 65 and over, are becoming the largest in the general population. The study, based on U. S. Census Bureau data, states that in 1984 there were 28 million people over the age of 65. That number is expected to increase by 25 percent by the year 2000.

The report showed that most older people considered themselves to be healthy and the mortality rate for the elderly is declining. However, chronic conditions including arthritis, hypertension, heart conditions and atherosclerosis is on the rise. There has also been an increased demand for nursing home care. The number of people in nursing homes is expected to increase four times by the year 2050.

The study reported that older people have more discretionary income, $5,219 per capita, which is almost twice that reported by households headed by people under age 35. Seven of ten older house-holders own their own home. Those most likely to be living in poverty and dependent on government supplements were elderly women.

EYE CARE AVAILABLE FOR ARKANSAS ELDERLY

There is a toll-free number older Arkansans can call if they have medical eye problems and are not seeing an ophthalmologist. The number, 1-800-222-EYES, is sponsored by the Foundation of the American Academy of Ophthalmological Society and the Arkansas Ophthalmological Society as well as other state ophthalmology societies in the U. S.

The Arkansas Helpline is open from 8 a.m. to 5 p.m. To qualify for a referral from the helpline, the person must be 65 or older, a U. S. citizen or legal resident, and have no personal ophthalmologist.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

PRACTICAL MANAGEMENT OF LOW BACK PAIN

Presented by John A. Blaschke, Sr., M.D., McBride Clinic, Oklahoma City, Oklahoma, *July 15, 7:00 p.m.* Education Building, Baxter County Regional Hospital, Mountain Home, Arkansas 72653. Two hours Category I credit. Sponsored by the Baxter County Regional Hospital.

TUMOR CONFERENCE — CANCER OF THE STOMACH

Presented by James G. Luehrs, M.D., *July 2, 7:00 a.m. Breakfast.* St. Michael Hospital, Texarkana. One hour Category I credit. Sponsored by UAMS, AHEC Southwest.

CHEST CONFERENCE — FOREIGN BODIES

Presented by William Stead, M.D., *July 16, 12:30 Luncheon.* St. Michael Hospital, Texarkana. One hour Category I credit. Sponsored by UAMS, AHEC Southwest.

STUDY TOUR: CHILDREN'S HEALTH CARE IN CENTRAL AMERICA

Sponsored by the University of Arkansas at Little Rock, *August 3-19, 1986.* Will tour children's health care projects in Guatemala, Honduras, Nicaragua and Costa Rica. Registration approximately $1,200 per person. C.E.U. credits available. For more information and itinerary contact: Gene Stanford, Ph.D., Arkansas Children's Hospital, 800 Marshall Street, Little Rock, Arkansas 72202; telephone 1-501-370-1149 (days), 1-501-224-4020 (evenings).

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I Credit.

EL DORADO — AHEC-SOUTH ARKANSAS

Surgical Conference, first, second and third Monday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Pathology Conference, second Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Tumor Clinic, fourth Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.
Obstetrics-Gynecology Conference, fourth Thursday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Behavioral Sciences Conferences, first and fourth Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Gyn-Pathology Conference, second Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Pediatric Conference, third Friday, 12:00 p.m. to 1:00 p.m., Union Medical Center.

FAYETTEVILLE — AHEC-NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Pathology-Mortality Conference, second Thursday, 3:00 p.m., VAMC.
Radiology Conference, third Thursday, 1:00 p.m., VAMC.
ICU Lecture Series, second Friday, 1:30 p.m., VAMC.

JONESBORO — AHEC-NORTHEAST

AHEC Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Interesting Case Conference, second Tuesday and fifth Tuesday when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Chest Conference, fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Pediatric Radiology Conference, each Monday, 12:00 noon, Second Floor Classroom.
Pulmonary Conference, each Monday, 3:00 p.m., Second Floor Classroom.

Pediatrie Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Genetics Conference, each Wednesday, 1:00 p.m., Annex Conference Room.
Infectious Disease Conferenee, second Wednesday, 12:00 noon, Second Floor Classroom.
Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pediatric Pharmacology Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Neuroscience Conference, first Thursday, 8:00 a.m., Second Floor Classroom.
Problem Case Conference, each Thursday, 12:00 noon, Second Floor Classroom.
Neuro/Oncology Conference, third Thursday, 8:00 a.m., Second Floor Classroom.
General Pediatrics Seminar, each Friday, 12:00 noon, Second Floor Classroom.
Pediatric Researeh Conferenee, third Monday, 12:00 noon, Second Floor Classroom.
Renal-Cardiology Conference, second Tuesday, 12:00 noon, Second Floor Classroom.
Pediatric Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pathology Conference, each third Tuesday, 3:00 p.m. to 4:00 p.m., Pathology Library.
Grand Rounds, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.
Surgery Conference, each Thursday, 7:30 a.m. to 8:30 a.m., Conference Room #2.
Anesthesiology Conference, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY
Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Classroom 1, Education Wing.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Classroom 1, Education Wing.
General Medicine Journal Club, first and third Tuesday, 12:00 noon to 1:00 p.m., Medical Affairs Conference Room.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Classroom 1, Education Wing.
Neuropathology Conference, third Tuesday, 5:00 p.m. to 6:00 p.m., Room S1174K, Laboratory.
Cancer Conference, first Wednesday, 12:00 noon to 1:00 p.m., CARTI Auditorium.
Pulmonary Conference, second and fourth Wednesday, 12:00 noon to 1:00 p.m., Classroom 1, Education Wing.
Hematology-Oncology Conference, second Thursday, 12:00 noon to 1:00 p.m., Laboratory Library.
Caneer Conferenee, third and fourth Thursday, 12:00 noon to 1:00 p.m., Room S1174K, Laboratory.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES
Anesthesia Leeture Series, each Tuesday, 7:00 a.m.; each Wednesday, 4:00 p.m., UAMS Education Building, Room G/106.
Anesthesia Morbidity and Mortality Conference, each Thursday, 4:00 p.m., UAMS Education Building, Room G/106.
GI Basie Science Conference, each Thursday, 7:30 a.m., UAMS Education Building, Room G/108A&B.
Interdisciplinary Gynecologic Cancer Conference, each Friday, 12:30 p.m., UAMS Education Building, Room G106A&B.
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.
Medicine Research Conference, each Tuesday, 8:00 a.m., UAMS Shorey Building, Room 8/105.
OB/Gyn Grand Ronnds, each Wednesday, 7:30 a.m., UAMS Education Building, Room G/141B.
Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m., UAMS AAC Eye Clinic, Room 3/150. 2 hours credit.
Orthopaedic Fracture Conference, each Tuesday, 7:30 a.m., UAMS Education Building, Room B/135.
Orthopaedic Bibliography Conference, each Tuesday, 8:30 a.m., UAMS Education Building, Room B/135. 1½ hours credit.
Orthopaedic Grand Rounds, each Tuesday, 10:00 a.m., UAMS Education Building, Room B/135.
Orthopaedic Basie Science Conferenee, each Tuesday, 11:00 a.m., UAMS Education Building, Room B/135.
Psychiatry Grand Rounds, each Friday, 11:00 a.m., UAMS Shorey Auditorium.
Psychiatry Case Conferenee, each Friday, 12:00 noon, UAMS Shorey Auditorium.
Psychiatry (Child) Case Conference, each Friday, 1:00 p.m., Child Study Center Conference Room, UAMS.
St. Vincent Urology Grand Rounds, first Tuesday, 5:30 p.m., St. Vincent Infirmary, Education Building, Room 159.
Surgieal Science Conference, each Saturday, 8:00 a.m., UAMS Education Building, Room G/131.
Surgery Grand Rounds, each Saturday, 9:00 a.m., UAMS Education Building, Room G/131.
Urology Grand Rounds/Urologie Topics, two to three times monthly (each), 5:00 p.m., UAMS or VAMC.
Urology Morbidity and Mortality Workshop/Uro-Radiology Workshop, once monthly, 5:00 p.m., UAMS (dates vary).
VA Medical Service Teaching Conference, each Thursday, 8:00 a.m., NLRVA, Building 66, Room 38.
VA Surgery Grand Rounds, each Thursday, 12:45 p.m., LRVA, Room 2D109.
VA Weekly Cancer Conference, (Surgical Service), each Tuesday, 1:00 p.m., LRVA, Room 2D109.

LITTLE ROCK — BAPTIST MEDICAL CENTER
Pulmonary Conference, each Tuesday, 12:00 noon, Shuffield Auditorium.

PINE BLUFF — AHEC
Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gyneeology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Leeture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Family Practiee Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 to 1:30 p.m., Jefferson Regional Medical Center.

Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC
Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.

As organizations accredited for continuing medical education by the Accrediation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.



THINGS TO COME



July 28-30

Advanced Neurosonology Seminar. Sponsored by the Center for Medical Ultrasound, Bowman Gray School of Medicine. Snowmass Conference Center, Snowmass, Colorado. Ten hours Category I credit to be announced. Fee: $350. For further information contact: Dr. Frederick W. Kremkau, Director, Center for Medical Ultrasound, Bowman Gray School of Medicine, 300 S. Hawthorne Road, Winston-Salem, North Carolina 27103; telephone (919) 748-4505.

July 31-August 2

Advanced Applied Ultrasound in Obstetrics. Sponsored by the Center for Medical Ultrasound, Bowman Gray School of Medicine. Snowmass Conference Center, Snowmass, Colorado. Ten hours Category I credit. Fee: $350. For further information contact: Dr. Frederick W. Kremkau, Director, Center for Medical Ultrasound, Bowman Gray School of Medicine, 300 S. Hawthorne Road, Winston-Salem, North Carolina 27103; telephone (919) 748-4505.

August 24-29

Wilderness Medicine. Co-sponsored by the University of California, San Diego and the Wilderness Medical Society. Snowmass/Aspen, Colorado. 21 hours AMA/CMA credit; others pending. For further information contact: Office of Continuing Medical Education, M-017, University of California San Diego School of Medicine, La Jolla, California 92093; telephone (619) 534-3940 or (619) 452-3940.

September 17-19

American Cancer Society National Conference on Gynecologic Cancer — 1986. Atlanta Hilton, Atlanta, Georgia. 16½ hours AMA Category I credit. Registration before September 3, 1986: $200 physicians, $100 other health professionals. Fee after September 3, 1986: $250 physicians; $150 other health professionals. No registration fee for students, interns, residents, and American Cancer Society Fellows or Career Development Awardees. For more information contact: American Cancer Society, National Conference on Gynecologic Cancer—1986, 90 Park Avenue, New York, New York 10016.

September 22-26

Postgraduate Institute for Emergency and Primary Care Physicians, Symposia I, II, and III, and Optional Advanced Emergency Procedures Laboratory. San Diego, California. ER I — September 22-26, 1986; January 12-16, 1987; and May 4-8, 1987. ER II — August 18-22, 1986; December 8-12, 1986; March 16-20, 1987; and August 17-21, 1987. ER III — June 16-20, 1986; October 27-31, 1986; June 22-26, 1987. For brochure and more information contact: Office of Continuing Medical Education, University of California San Diego School of Medicine, M-017, La Jolla, California 92093; telephone (619) 452-3940.

October 17-19

Current Advances in Pediatrics. Sponsored by the Orange County Pediatric Society/California Chapter 4 and the American Academy of Pediatrics. Disneyland Hotel, Anaheim, California. For further information contact: OCPS/California Chapter 4, AAP, Post Office Box 1297, Orange, California 92668.

October 23-24

Prevention, Recognition and Treatment of

Agrichemical Related Exposure Conference. Co-sponsored by Texas Tech University Health Sciences Center and the National Agricultural Chemicals Association. Hilton Palacio Del Rio, San Antonio, Texas. Nine Category I hours for physicians. 1.1 CEU's for nurses. For further information contact: Betsy S. Buchan, National Agricultural Chemicals Association, 1155 15th Street, N.W., 9th Floor, Washington, D. C. 20005; telephone (202) 296-1585.

December 14

Antarctic Medical Seminars. The Lecture Room of the ship M. S. Society Explorer. Depart and return to Miami, Florida. Sponsored by International Medical Seminars. Itinerary will be Punta Arenas, Chile, Strait of Magellan, Beagle Channel, Cape Horn, Drake Passage, Antarctic Peninsula, Falkland Islands, and South Georgia. 25 hours CME Category I credit. Additional cruise dates: January 9, 1987 and January 30, 1987. Fee for medical seminar tuition is $400. For additional information contact: International Medical Seminars, 125 Main Street, Westport, Connecticut 06880; telephone (203) 222-0560 or 1-800-551-0019.



PERSONAL AND NEWS ITEMS

DOCTOR RECERTIFIED

Dr. A. Bruce Junkin of Newport recently completed the continuing education requirements to retain active membership in the American Academy of Family Physicians.

DOCTOR SPEAKS TO BRINKLEY GROUP

Dr. Anthony Flippin of Little Rock was one of the featured speakers at the "Mammography and Breast Cancer" seminar in Brinkley.

HEARNSBERGER AT CANCER BENEFIT

Dr. John Hearnsberger, a Nashville, Arkansas surgeon spoke at the Cancer Crusade, a benefit sponsored by the Lafayette County Cancer Society.

PHYSICIANS SPEAK AT SEMINAR

C. Dale Fuller, M.D. and Marion M. Church, M.D., both of North Little Rock, and Thomas J. Smith, M.D. of Little Rock, spoke at a seminar entitled "For Women Only" which dealt with the most common forms of cancer in women. The seminar was held at the Park Hill Baptist Church.

DR. SHRIGLEY HONORED

Dr. Guy Shrigley of Clarksville was recently honored by the town of Clarksville with "Dr. Guy Shrigley Day". There was a reception for the physician who recently retired after 46 years of practice.

BLAYLOCK VOTED PRESIDENT-ELECT

Dr. Jerry Douglas Blaylock, a native of Clarksville, was recently voted president-elect of St. Bernards Regional Medical Center in Jonesboro by the medical staff of that hospital.

DR. CAPLINGER SPEAKS

Dr. Kelsy Caplinger of Little Rock recently spoke about "Volunteerism" at the annual Awards Banquet of Stepping Stones, Inc. Dr. Caplinger received the President's Volunteer Action Award in 1985 for volunteer service.

FISER SPEAKS AT FAMILY ASTHMA PROGRAM

Dr. Martin Fiser of the Arkansas Allergy Clinic spoke to the Family Asthma Program in El Dorado. The program was sponsored by the El Dorado Chapter of the American Lung Association of Arkansas.

AMA AUXILIARY CANDIDATE

Mrs. Kemal E. (Virginia) Kutait is a candidate for Secretary of the American Medical Association Auxiliary for 1986-87.



NEW MEMBERS

DR. JAMES L. CANALE

Dr. Canale is the new member of the Mississippi County Medical Society. Dr. Canale attended Memphis State University for his pre-medical education and continued his medical education at the University of Tennessee College of Medicine, graduating in 1965. He served his internship and residency in Otolaryngology at the Henry Ford Hospital in Detroit.

Dr. Canale had a practice for fifteen years in Memphis and was a Clinical Associate Professor in the Department of Otolaryngology at the University of Tennessee. He is board certified in Otolaryngology.

Dr. Canale's office address is 620 West Walnut, Blytheville.

DR. JAMES L. CHESHIER

Dr. Cheshier is the Sebastian County Medical Society new member. He received his B.A. degree in 1971 from the University of Arkansas and his M.A. degree in 1973 from the College of William and Mary. Dr. Cheshier attended the University of Arkansas College of Medicine and graduated in 1977. He served his internship at the Baptist Medical Center, Little Rock and his residency in Pediatrics at the Walter Reed Army Medical Center.

Dr. Cheshier was the Chief of Pediatrics at Moncrief Army Hospital School of Medicine and an Assistant Professor of Pediatrics at the University of South Carolina.

Dr. Cheshier is board certified in Pediatrics and is practicing Pediatrics as a member of the Holt-Krock Clinic, 1500 Dodson, Fort Smith.

DR. JEFFREY TURNER JONES

Dr. Jones is a new member of the Carroll County Medical Society. Dr. Jones, a Batesville native, graduated from Southwest Missouri State University in 1974 and the University of Arkansas College of Medicine in 1980. He served his internship and residency in Obstetrics and Gynecology at the University of South Dakota.

Dr. Jones has practiced Obstetrics and Gynecology for one year in Berryville. His office address is 302 Rice Road, Berryville.

The Lafayette County Medical Society has two new members:

DR. ROBERT C. PATTON

Dr. Robert C. Patton graduated from the University of Arkansas in 1969 and received his medical education from the University of Arkansas College of Medicine, graduating in June 1973. He served his internship in Pediatrics and Internal Medicine at the University of Arkansas College of Medicine, and completed his residency in Family Practice.

Dr. Patton practiced at the Lee Clinic in Stamps, Arkansas from 1974-76. He served in the military from 1976 to 1982, where he was a member of the Family Practice teaching staff and practiced in the Flight Sprgeon School. He was an Assistant Professor at the University of Arkansas and is board certified in Family Practice. His office is located at the Lewisville Family Practice Clinic, Third and Spruce Streets, Lewisville.

DR. CHARLES L. POTEET

Dr. Charles L. Poteet attended Ouachita Baptist University, graduating in 1977 with a B.A. degree. He attended the University of Arkansas College of Medicine, serving his internship and residency at University Hospital in Little Rock. Dr. Poteet has been in Family Practice in Lewisville for one year and is board certified in Family Practice.

Dr. Poteet's office address is the Lewisville Family Practice Clinic, Third and Spruce Streets, Lewisville.

DR. CATHERINE REED SLATON

Dr. Slaton is the new member of the Garland County Medical Society. She is a Durham, North Carolina native and graduated from Hendrix College in 1977. She graduated from the University of Arkansas College of Medicine in 1982 and served her internship and residency in Pediatrics with the Arkansas Children's Hospital.

Dr. Slaton practices Pediatrics in Hot Springs. Her office address is Ouachita Professional Building, 3100 Malvern Avenue.

DR. WILLIAM EUGENE SPEED, JR.

Dr. Speed, a native of Lepanto, has recently joined the Lonoke County Medical Society. He attended Ouachita Baptist University and received his B.S. degree in 1965. He attended the University of Arkansas College of Medicine and served his internship with St. Vincent Infirmary. His residency was spent with the United States Navy.

Dr. Speed is in Family Practice at the England Medical Clinic, 104 Stuttgart Highway, England.

The Pulaski County Medical Society has four new members:

DR. DEBORAH MOBLEY BRYANT

Dr. Bryant, a Minnesota native, graduated from Wellesley College in 1976 and in 1980 she graduated from Vanderbilt University School of Medicine. She served her internship and residency in Pediatrics at Vanderbilt University Hospital. Dr. Bryant practiced for two years in Nashville, Tennessee and is board certified in Pediatrics.

Dr. Bryant's office address is the Arkansas Department of Health, 4815 West Markham, Little Rock.

DR. J. LYNN DAVIS

Dr. Davis graduated from Vanderbilt University in 1975 and attended the University of Arkansas College of Medicine. He graduated in 1979. He served his internship and residency at the Pitt County Memorial Hospital in conjunction with the East Carolina University program.

Dr. Davis was an Assistant Professor of Medicine in Cardiology at the University of Arkansas College of Medicine and the Staff Cardiologist at Veteran's Hospital. Dr. Davis is board certified in Internal Medicine and he is practicing Adult Cardiology. His office address is 415 North University, Little Rock.

DR. J. RYLAND MUNDIE

Dr. Mundie, a native of Oklahoma, received his B.S. degree from Ouachita Baptist University in 1951 and attended the University of Arkansas College of Medicine, graduating in 1956. He was an intern at University Hospital in Little Rock and a resident in Emergency Medicine at Wright State University.

Dr. Mundie was the Director of Emergency Medicine, UAMS, from 1981 to the present, an Associate Professor of Community Medicine at Wright State University and in the Neurophysiology Branch of the Aerospace Medical Research Laboratory at Wright-Patterson Air Force Base.

Dr. Mundie's specialty is Emergency Medicine. His office address is University of Arkansas for Medical Sciences, 4301 West Markham, Slot 584, Little Rock.

DR. DAVID LEON OLIVE

Dr. Olive received his B.S. degree in 1972 from the Massachusetts Institute of Technology and attended the Baylor College of Medicine until graduation in 1979. He served an internship with the Northwestern University Medical School and a residency at Duke University Medical Center, specializing in Obstetrics and Gynecology and Reproductive Endocrinology.

Dr. Olive's practice is in Obstetrics and Gynecology and his office address is University of Arkansas for Medical Sciences, 4301 West Markham, Slot 518, Little Rock.

OBITUARY

DR. LAWRENCE M. ZELL

Dr. Zell, formerly of Little Rock, died April 19, 1986. He was born in Little Rock.

Dr. Zell was a graduate of Notre Dame University and Johns Hopkins School of Medicine. He worked for the United States Public Health Service from 1941 to 1950 and he was the first board certified dermatologist in Arkansas.

Dr. Zell is survived by his wife, Virginia Turner Zell; two sons, David Lawrence Zell and Leonard Roger Zell; two daughters, Martha Zell Schulte and Rita Frances Zell; and four grandchildren.

RESOLUTIONS



DR. LAWRENCE M. ZELL

WHEREAS, the membership of the Pulaski County Medical Society notes with sincere sorrow the recent death of an esteemed member, Lawrence M. Zell, M.D. and

WHEREAS, he had been a valuable member of this Society for the past thirty-seven years and had made contributions for the betterment of the organization throughout his career, and

WHEREAS, Dr. Zell was distinguished in Arkansas Medicine, being the first Board Certified dermatologist in the State; be it therefore

RESOLVED that this resolution be adopted as an expression of our appreciation of Dr. Zell's life, and that a copy be forwarded to his family to note our deepest sympathy, and that a copy be sent to the Journal of the Arkansas Medical Society for publication.

By Action of the Memorials Committee
Charles H. Rodgers, M.D., Chairman
Henry Hollenberg, M.D.
Robert Watson, M.D.

July 1986

THE JOURNAL OF THE Arkansas MEDICAL SOCIETY

Vol. 83 No. 2

LITTLE ROCK, ARKANSAS

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IN THIS ISSUE

Total Abdominal Colectomy 85
Lesions in the Oral Cavity 87

FEATURES

You Can't Change Human Nature 92
Unproven Methods of Cancer Management 95
Pediatric Cerebellar Tumors 100

EDITORIAL

Discriminatory Lists 105

CARDIOLOGY FOR THE PRIMARY CARE PHYSICIAN



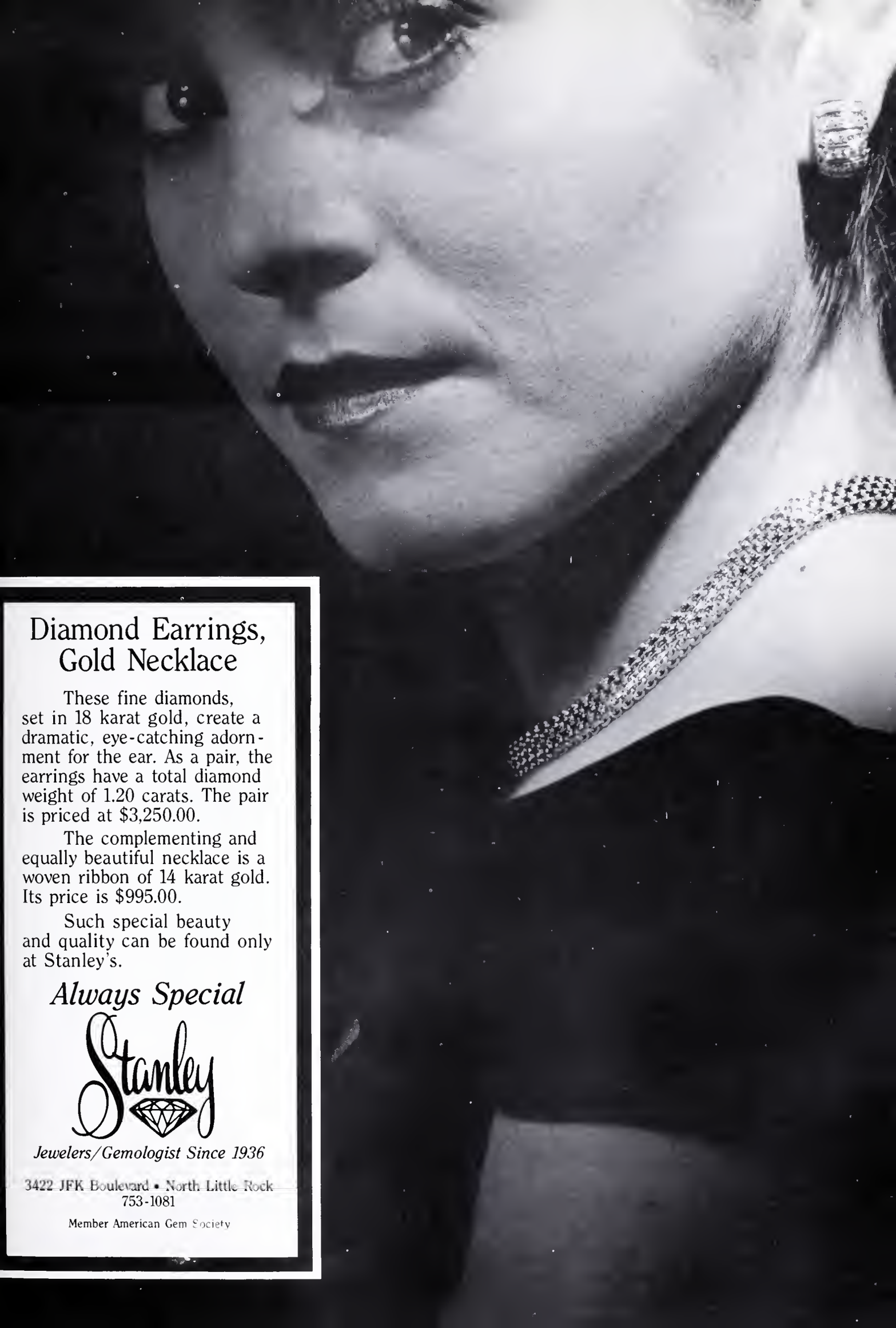
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NEWS — Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

SCIENTIFIC ARTICLES

Total Abdominal Colectomy—Indications and Post-operative Function 85
Robert L. Bomar, M.D.

Lesions in the Oral Cavity 87
Eugene N. Myers, M.D.

FEATURES

ECG of the Month 91
Robert Banister, M.D., and John W. Watson, M.D.

Orthopedic Trends: "You Can't Change Human Nature—the Halo Revisited" 92
Charles C. Schock, M.D.

Public Health at a Glance: "Unproven Methods of Cancer Management" 95
Ben N. Saltzman, M.D.

Pediatric Update: "Pediatric Cerebellar Tumors" 100
William M. Chadduck, M.D.

Editorial: "Discriminatory Lists" 105
Alfred Kahn, Jr., M.D.

From Other Years 107

Medicine in the News 107

Keeping Up 109

Things to Come 113

Personal and News Items 115

New Members 116

Resolution 116

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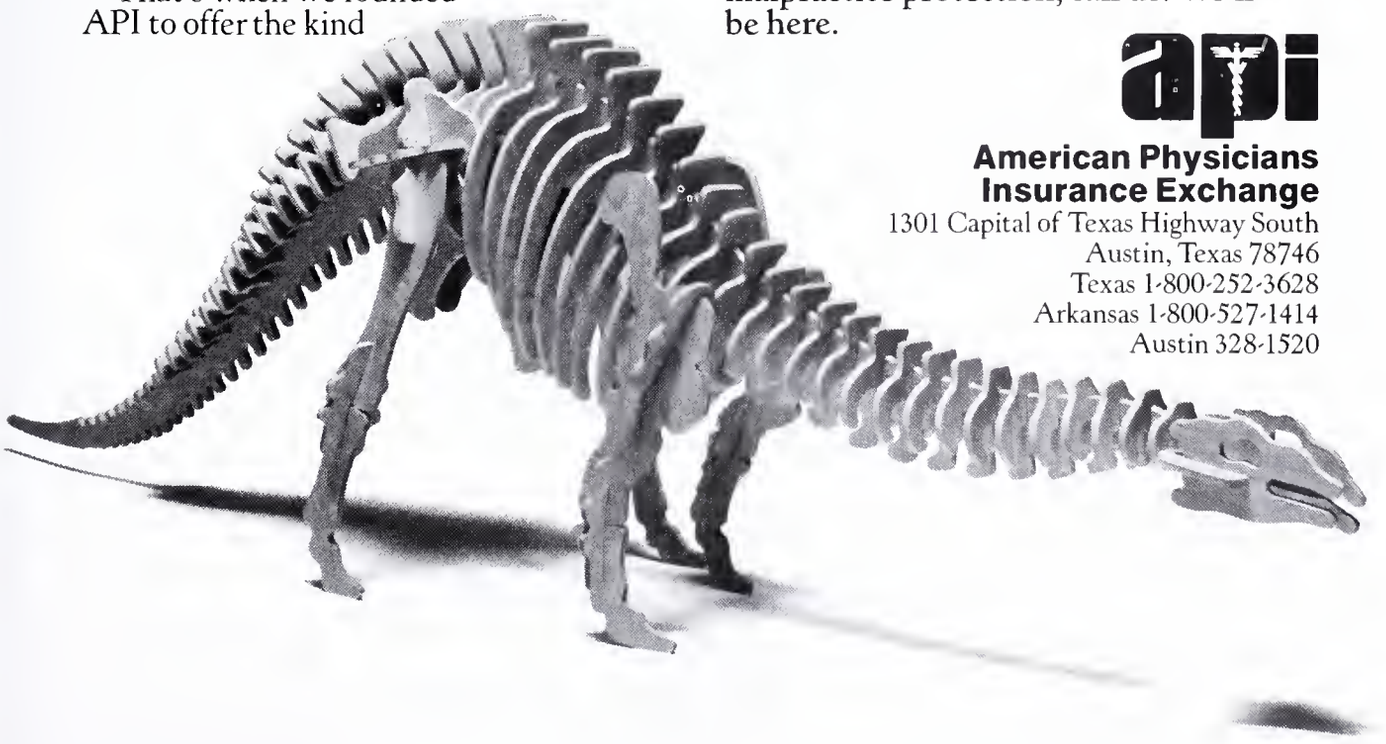
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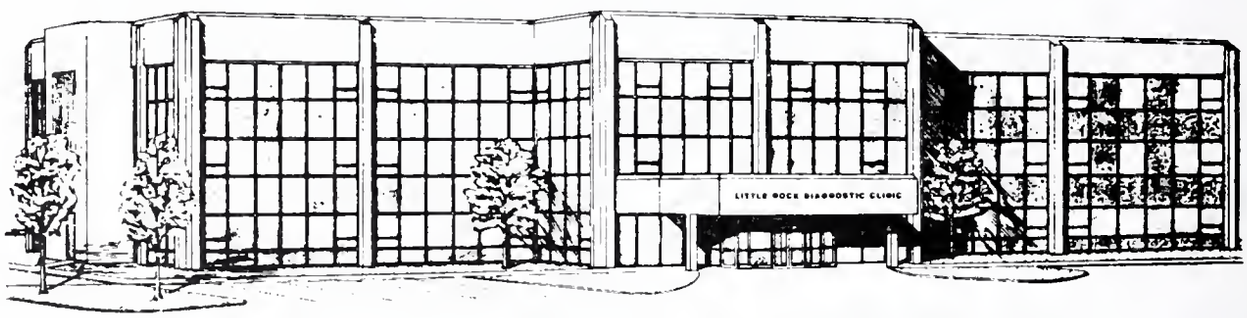
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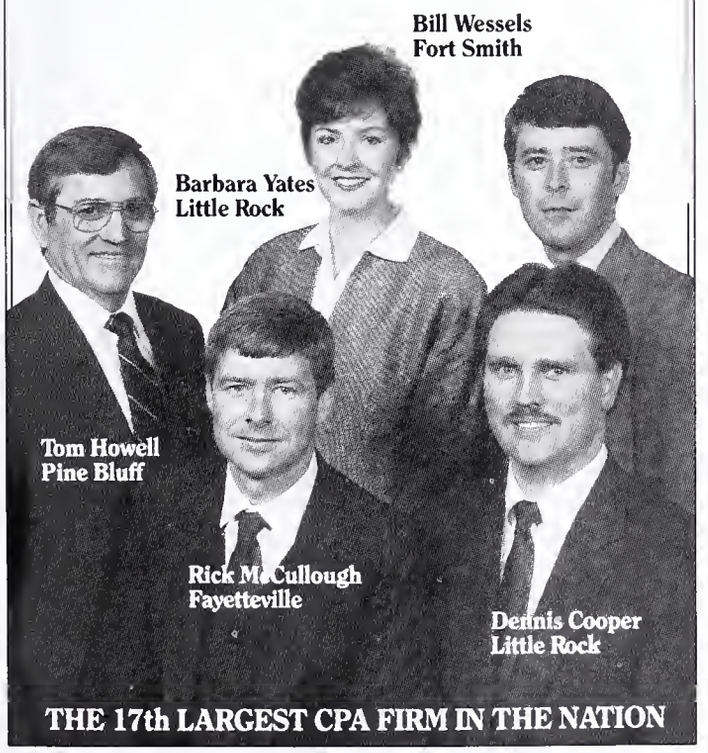
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Total Abdominal Colectomy — Indications and Post-operative Function

Robert L. Bomar, M.D.*

Total abdominal colectomy (T.A.C.) is a necessary surgical procedure for disease processes involving multiple areas in the colon. Bowel function following T.A.C. is a matter of concern to both the patient and the surgeon involved. While synchronous and metachronous carcinoma, inflammatory bowel disease, familial polyposis, and extensive diverticular disease have represented the major indications for T.A.C., the concommitant presence of colonic carcinoma and potential or actual carcinoma within colonic polyps, may necessitate consideration for T.A.C. with increasing frequency. The increasing availability of colonoscopic examinations may well contribute to this consideration.

The present study is an analysis of the experience with T.A.C. at the Nashville VAMC. From 1979 through 1984, 26 T.A.C.'s were performed. The contribution of colonoscopy is defined and post T.A.C. bowel function is assessed. The indications for T.A.C. include concurrent carcinoma and colonic polyps, diverticular disease, synchronous and metachronous carcinoma, inflammatory bowel disease, multiple polyps, familial polyposis, and ischemic colon (Table 1).

Colon carcinoma represents a major aspect of overall cancer mortality.[3] The volume of colon carcinoma encountered at the Nashville VAMC averages 59 cases per year and thus the potential necessity for considering T.A.C. is 6% of total cases.

When T.A.C. is performed, the options of either permanent ileostomy or ileorectal anastamos (I.R.A.) usually must be considered. The latter procedure is associated with a low but definite mortality (1-3%) and morbidity represented by an increased number of stools.[5] Stool frequency is variable following I.R.A.[2,6] In the 26 cases where T.A.C. was done at the Nashville VAMC, ileostomy was necessitated in 10 cases, while I.R.A. was accomplished in 16 cases. Bowel function was "satisfactory" in 64% and 70% respectively (Tables 2 and 3).

TABLE 1
TOTAL ABDOMINAL COLECTOMY (T.A.C.)
NASHVILLE VAMC — '79-'84
TOTAL PATIENTS — 26

Indications for T.A.C.	
Carcinoma and Polyps	8
Diverticular Disease	6
Carcinoma — Synchronous	3
Carcinoma — Metachronous	3
Inflamm Bowel Disease	2
Multiple Polyps	2
Familial Polyposis	1
Ischemic Colon	1

TABLE 2
BOWEL FUNCTION — FOLLOWING T.A.C.
NASHVILLE VAMC — '77-'84
TOTAL PATIENTS — 26

Ileocolostomy	
Satisfactory (4-7 BM/d)	11
Unsatisfactory (Occ. Diarrhea)	2
Post Op Death (30d)	3

TABLE 3
BOWEL FUNCTION — FOLLOWING T.A.C.
NASHVILLE VAMC — '77-'84
TOTAL PATIENTS — 26

Ileostomy	
Satisfactory (3/d or 1000 u/d)	7
Complication	1
Post Op Death (30d)	2

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The ready availability of colonoscopy steadily leads to a more thorough appreciation of the contribution of the ubiquitous colonic polyps to overall colon pathology, especially their potential relationship to colon cancer. An active gastroenterology service at the Nashville VAMC performed 150 colonscopic exams during 1984 (Table 4). Multiple polyps were found in 50% of exams and the polyps were present at multiple sites remote from each other and remote from concurrent colon cancer in 11% of instances (Table 5).

TABLE 4
COLONOSCOPY — NASHVILLE VAMC — '84

Carcinoma and/or Polyp	150
Isolated Carcinoma	11
Isolated Polyp	62
Multiple Polyps	77 (50%)

TABLE 5
COLONOSCOPY — NASHVILLE VAMC — '84

Multiple Polyps	77
Polyp — Single Site	26
Polyp — Multiple Site	51
Carcinoma and Polyp	
Single Site	8
Mult. Site	9 (11%)

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DISCUSSION

Total abdominal colectomy (T.A.C.) is required in an appreciable number of instances where multiple carcinomas of the colon are found and where actual or potentially malignant polyps are encountered. Colonoscopy usually increases the appreciation of the magnitude of this relationship, and the size and nature of encountered polyps becomes a major consideration.[2,3] The need for T.A.C. may well increase as both synchronous and metachronous carcinomas are found and also where active and spatially remote polyps are present at colonscopy.

When T.A.C. is performed and I.R.A. is accomplished, bowel function appears variable but generally satisfactory. When I.R.A. is done following T.A.C. for polyposis, a 41%-45% incidence of "percipitancy" is a regular occurrence,[2] while 16% of patients find restriction of social activity because of diarrhea and incontinence.[6] When I.R.A. has been accomplished for colitis, only 50% of patients attain satisfactory bowel functions.[2] Experience with reservoir ileoanal anastamosis are variable.[1,2]

CONCLUSIONS

The indications for T.A.C. may increase as means of diagnosis and appreciation of the extent of colonic cancer and associated remote polyps becomes available through colonoscopic examinations. When I.R.A. is accomplished, bowel function appears to be an acceptable social problem for most individuals, when weighed against the alternatives of ileostomy or further progression of strongly potential malignant change within residual colon polyps.

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Lesions in the Oral Cavity

Eugene N. Myers, M.D., F.A.C.S.*

Malignant diseases of the oral cavity are quite uncommon. The most common malignancy is squamous cell carcinoma which is usually found in patients who have a long history of cigarette smoking and alcohol intake. An exception to this is the so-called "snuff dippers" cancer which is an exophytic cancer found in the buccal mucosa of people who have dipped snuff for long periods of time. This is particularly prevalent in the southeastern and southwestern portions of our country.

Because of the accessibility of the oral cavity for inspection, there should be no excuses for overlooking a suspicious lesion and managing it appropriately or referring it for management to the appropriate specialty.

HISTORY

The history is very important. Most patients who have oral cavity cancer present with a history of local pain in the oral cavity, bleeding, foul breath, and many times the patient's dentures no longer fit well. Otalgia (referred pain to the ear) is a frequent part of the history in patients who have advanced cancers in which the malignant cells infiltrate into the nerves, causing referred pain into the ear usually by way of the fifth and ninth cranial nerves.

Many patients are prone to self-examination of the oral cavity and will come in with the history that they have identified a mass in the oral cavity or white spot in the oral cavity which is alarming to them. The presence of an ulcerated lesion in a patient who is in their middle years and has a history of smoking and alcohol abuse, should cause one to have a high index of suspicion that these patients have squamous cell carcinoma.

PHYSICAL EXAMINATION

The physical examination of the oral cavity can be accomplished very readily by any physician or dentist. It is extremely important that the patient complaining of problems in the oral cavity should remove their dentures, whether complete or partial, prior to the physical examination. It is possible that the presence of a denture could inadvertently hide a lesion from the examiner's view.

Inspection remains the most important way of examining the oral cavity. This may be accomplished with a head mirror, headlight or a very bright flashlight (Figure 1). A metal or wooden tongue blade is useful in moving the tongue or



Figure 1.
Inspection of the oral cavity.

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Figure 2.
Palpation of the oral cavity.

buccal mucosa out of the way so that all of the structures in the oral cavity may be inspected.

Palpation is very important and may be accomplished by the use of a rubber or plastic glove similar to that used in pelvic and rectal examinations in most practitioner's offices, or by use of the small fingercot (Figure 2). Some lesions although appearing very superficial on the surface may simply represent the "tip of the iceberg" and palpation may reveal a deeply infiltrating lesion underlying the mucosa. It is also important that the physician have the patient protrude the tongue, since deeply infiltrating tumors which may not be appreciated on the surface, can impair the function of the hypoglossal nerve and may cause deviation of the tongue on attempted protrusion.

DIFFERENTIAL DIAGNOSIS

Congenital. Congenital lesions involving the oral cavity are readily recognizable and include lymphangiomatous macroglossia (Figure 3), hemangioma or a combination of hemangioma and lymphangioma. Lymphangiomas appearing in childhood often also involve the submental space in the neck. These should not be operated on in



Figure 3.
Lymphangiomatous macroglossia.

childhood because of the very real potential for an injury to the facial nerve. Only those which interfere greatly with swallowing or development of speech should be considered for surgery and then only for debulking surgery.

Trauma. Traumatic lesions often cause problems in differential diagnosis. Obvious acute traumatic lesions, such as biting the tongue during an accident or laceration with a piece of glass, are fairly common and the combination of the history and physical examination should lead to a diagnosis along these lines. Less straight forward are so-called "denture sores" which are hyperkeratotic white lesions caused by the rubbing of dentures on the gingival tissues. These are sometimes difficult to differentiate from tumors and often cause patients great alarm in our cancer-conscious world. Other traumatic lesions which are alarming to patients are those along the buccal sulcus adjacent to the teeth or along the lateral aspect of the tongue which are caused by rubbing on ill-fitting dentures or on irregular jagged teeth (Figure 4). The history and physical examination should provide enough information to provide a working diagnosis. If one is concerned about what appears to be a small and innocent looking super-



Figure 4.
Ulceration and pre-malignant changes in the tongue.

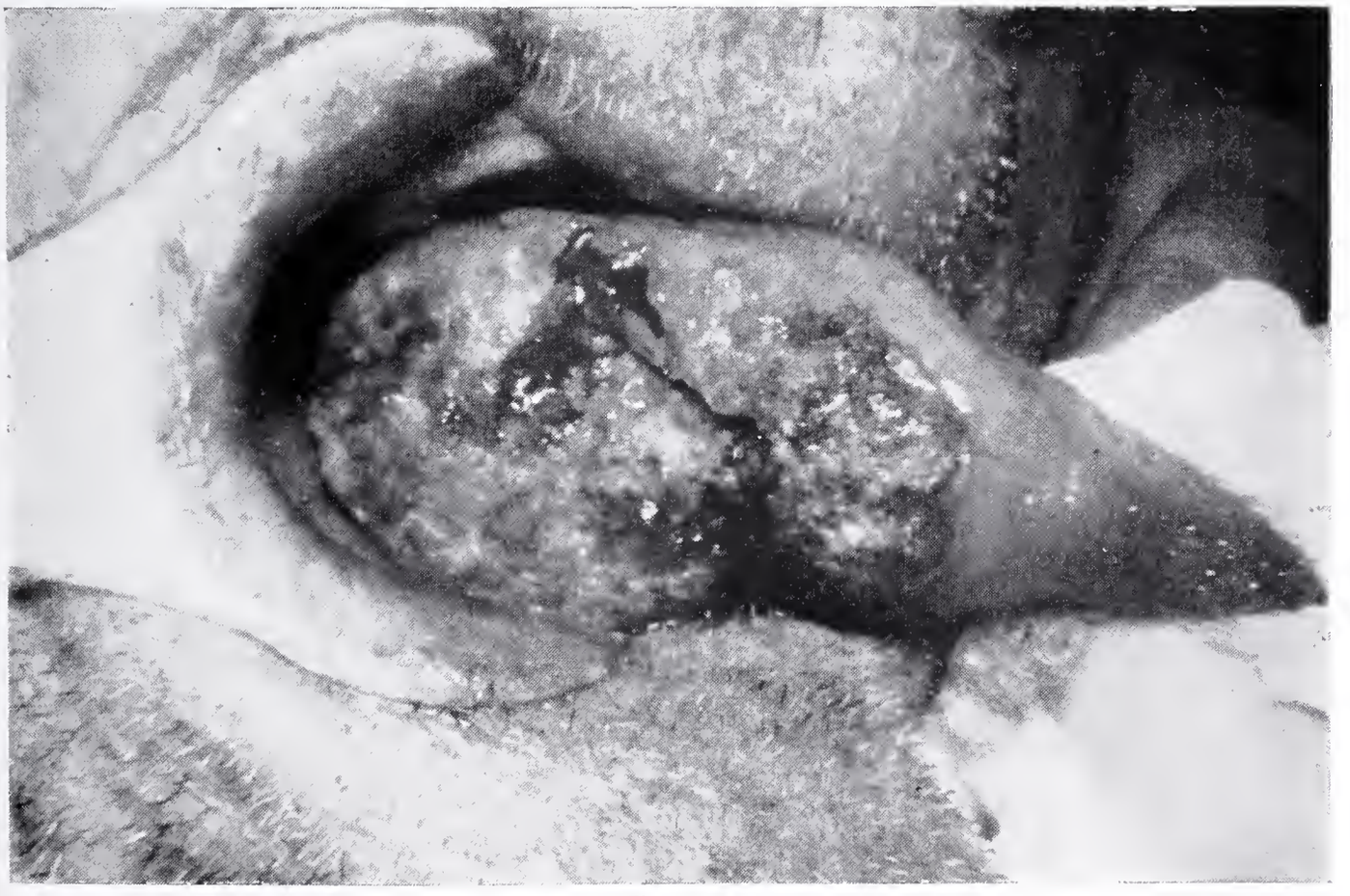


Figure 5.
Typical appearance of squamous cell carcinoma of the tongue.

ficial traumatic ulcer, a trial of leaving the dentures out except at meal times, half-strength peroxide rinses and Kenalog in Orabase ointment applied locally will often times not only provide a diagnosis, but will be curative for traumatic lesions.

Inflammatory diseases of the oral cavity occur infrequently and are usually accompanied by hyperemia, pain and a history which is closely linked to the onset of the symptoms.

Malignant lesions of the oral cavity tend to be ulcerative, infiltrative and chronically infected (Figure 5). Most squamous cell carcinomas arise from the lining of the oral cavity, although other malignant tumors such as mucoepidermoid carcinoma and adenoid cystic carcinoma, both of minor salivary gland origin, may remain mucosal covered. Lymphomas may also arise in the oral cavity, particularly in the base of the tongue and tonsil area, and may present either in an ulcerated or mucosal covered form. Patients who present with cancers in the area of the floor of the mouth or the tongue should also be examined for the possibility of cervical lymph node metastasis (Figure 6).

The family practitioner should have a high index of suspicion of a painful ulcerated lesion in a patient who is in their middle years and has a history of tobacco and alcohol abuse, and these should be referred to the otolaryngologist for more detailed examination, biopsy, staging and appropriate treatment.

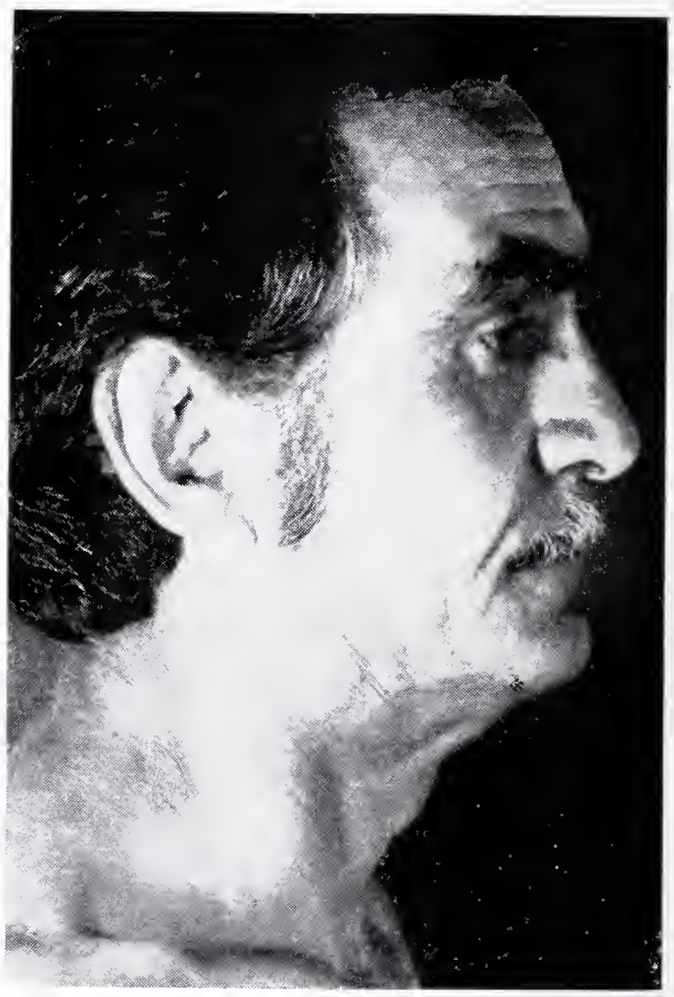


Figure 6.
Metastasis of squamous cell carcinoma to lymph nodes in the neck.

SUGGESTED READING

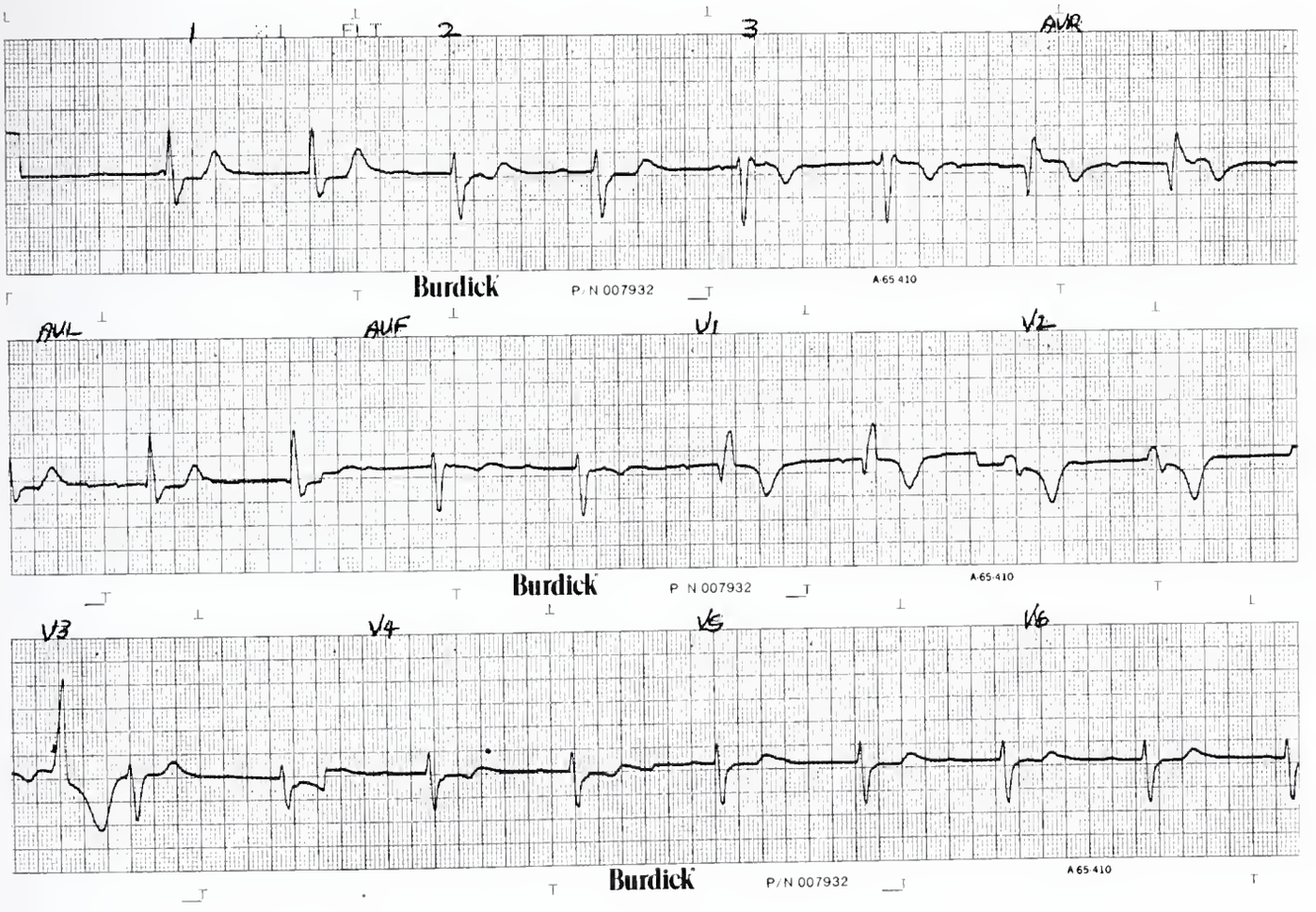
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ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See **Answer on Page 94**)

HISTORY: A. R. is a 93-year-old woman who presented to the hospital with infarctional chest pain. Her enzymes evolved in a manner typical for myocardial infarction over a three day period of time. The initial traces showed sinus rhythm with left bundle branch block, effectively masking her site of infarction. On day four, her ECG changed. Her electrocardiogram, displayed as a continuous rhythm strip, is shown. What do you think of the changes in relationship to the previous documented mechanism and bundle branch block pattern?



Robert Banister, M.D., and John W. Watson, M.D.
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Orthopedic Trends

You Can't Change Human Nature — The Halo Revisited

Charles C. Schock, M.D.*

Two articles and an editorial in the March 1986 *Journal of Bone and Joint Surgery* point out some complications and unexpected by-products of the use of halo skull-spinal fixation for a multiplicity of purposes. Complications cited in these articles included pin loosening, pin site infection, pin penetration, pressure sores, cutaneous nerve injury, pin site bleeding, dyhphasia, pin scars, pin discomfort, and an unexpected amount of cervical vertebral motion.[1,2,3] Comparing the current uses of halo fixation to those described initially by Perry and Nickel in 1959,[4] we see again the propensity of practitioners to modify an initially good idea without regard for fundamental laws of human nature. The laws of human nature to which I refer are not those emotional qualities famous in song and story, but rather the fundamental laws of force distribution and physiology.

The replacement of halo cast fixation by an abbreviated device such as the halo vest ignores some laws of "human nature". I submit that this may compromise the stability of spinal fixation and increase the risk of complications.

Considering flexion-extension stability of fixation, the use of the halo vest with its shorter lever arm increases the force requirement at the distal portion of the vest for a given amount of corrective moment. Adding a large amount of padding does not change the force requirement over the thorax, and only makes the whole assembly more unstable. This situation is analogous to immobilizing the knee in a long leg cast. The patient may demand that the upper portion of the cast be cut shorter and shorter because the edge is uncomfortable. The more the cast is trimmed down, the more its edge cuts into the thigh and hence becomes progressively painful. Adding a large amount of padding to the cast only decreases the amount of fixation to the knee. Well-intentioned humanitarian impulses on the part of the practitioner should result not in cutting down the cast, but in the application of a well-fitting minimally padded cast extending as high on the thigh as is practical. This will diffuse the needed pressure over a much larger area, resulting in greater comfort. The same principle applies to halo cast fixation where the most comfortable assembly is a well-fitting body cast molded anatomically about the hip anatomy so as to diffuse the pressure over a large area and lengthen the lever arm. Halo Milwaukee girdle fixation, if well-fitting, could also accomplish the same purpose.

With respect to torsional stability, the halo vest again falls short. The thorax is a basically round structure in its cross-sectional dimensions which is inefficient in limiting rotary motion of an applied brace. Extension of the cast or brace down to the pelvis affords an irregularly oval cross-sectional shape with better torsional fixation.

In maintenance of longitudinal distraction of

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a given magnitude, the halo vest is most spectacularly inefficient. In order for the halo to exert upward distraction on the cervical spine via the skull, it must be attached to something that exerts (by Newton's Third Law) an equal and opposite force on the body in a downward direction. While a halo cast molded anatomically about the iliac crest is in an excellent position to exert this downward force on a stabile structure, the halo vest can exert it only on the upper surface of the shoulder girdle. The latter is, of course, a movable structure, and unless jammed persistently (and intolerably) into its most depressed position, it represents a movable base supporting the halo. It is little wonder that Whitehall, Richmond and Glazer's article shows a failure of immobilization of the cervical spine by the halo vest. While the halo cast is unable to prevent "snaking" of the cervical vertebrae (slight reciprocal flexion and extension of different portions of the cervical spine) this motion is relatively minor and is in no way as significant as the other displacements that have been described.

Violating the laws of "human nature" pertaining to force and moment equilibrium is therefore seen to exact a price in terms of inadequate vertebral immobilization.

Halo pin loosening and halo pin infection may in part be related to technique of pin insertion. When the pins are inserted without making preliminary skin incisions they do not make initial solid contact with the outer table of the calvarium. This has been personally verified by the author while attending a halo course sponsored by Dr. Ron DeWald in Chicago. Pins were inserted on a cadaver according to the recommended six inch-pound of torque without incision, and subsequent dissection of the cadaver tissues with the pins left in place revealed that they were hung up on the skin and tough fascial layers two or three millimeters away from the bone. When pins are inserted in this fashion, it then mandates that the pins must progressively "necrose" their way through soft tissues until ultimately reaching the bone. This reduces assurance that one has obtained a firm bone fixation. The problem can be avoided by making an initial skin and fascial incision with a number 11 knife blade which will allow the pins to be firmly and predictably imbedded in bone at the time of the initial insertion, and much necrosis, repeated pin tightening, and toggle will be eliminated. Firm fixation into the bone at the time of the initial insertion will reduce the possibility of tissue inflammation, an increasing bone resorption and the possibility of halo pin penetration. It is advantageous to observe the law of "human nature" that firm anchoring of external fixators to bone will reduce inflammation, infection and pin migration. It may also reduce the incidence of undesirable pin scars by encouraging a clean and uninflamed skin-pin interface. Meticulous pin site care is, of course, also important to preventing infection. In our hands, a b.i.d. regimen of cleansing all pin sites with Peroxide and then painting with Betadine has been effective. Neglecting this regimen and allowing crusted exudate to build up will predispose a particular pin site to infection.

With respect to anterior pin site selection, there inevitably needs to be a compromise between cosmesis and stability of fixation. Considering only fixation, the best place for the anterior pins is slightly below the "equator" and just above the supraorbital ridge lateral enough, of course, to avoid the supraorbital and supratrochlear nerves. The resultant scar, however, is anterior to the hairline in most individuals. Careful palpation above the insertion of the temporalis muscle will identify a pin site which is just at the anterior margin of the hairline, which is still below the equator of the skull, and is placed into the good bone of the inferior temporal line. The temporalis muscle is not traversed so as to avoid discomfort in chewing. Placing the pin directly through the temporalis muscle, in addition, purchases on thinner bone, increasing the possibility of pin penetration.

Use of x-rays to demonstrate pin "penetration" ignores another fundamental law of "human nature". Considering the penetration of a radio-opaque object into a convex structure such as the skull can only conclusively demonstrate non-penetration if one obtains the proper x-ray projection. Possible "penetration" in this situation may simply represent non-penetration with the pin site slightly rotated out of the optimal x-ray plane. The opposite is the case when considering the penetration of an opaque object (such as a hip nail) into a concave structure such as the acetabulum. Here, definite penetration can be ascertained by x-ray in the proper plane, and apparent non-penetration of the acetabulum may indeed represent penetration which is not demonstrated because the x-ray plane is incorrect.

We have found halo fixation to be a very useful method of immobilization of the cervical and thoracic spine when the mechanical situation demands. Application is easily accomplished under local anesthesia if guidelines are followed. The observance of the laws of "human nature" at the other ("human") end of the fixation will maximize one's chances of obtaining a good therapeutic effect and minimizing the possibility of complications.

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ANSWER — Electrocardiogram of the Month

DISCUSSION: The mechanism is no longer sinus. The best candidates for P waves bear no consistent relationship to the QRS complexes. High grade block appears ta be present. The QRS duratian is greater than 0.12 seconds and the pattern is that of right bundle branch block. Though the ST-T segments are abnormal, no clear infarct pattern is evident. This trace, when coupled with the previous electrocardiogram showing LBBB, suggests bilateral bundle branch block. A consequence of bilateral bundle branch block may be complete heart block. A pacemaker was recommended to the patient.

The section editor wishes to thank Dr. Banister of Conway, Arkansas for his contribution to this manth's feature.



Unproven Methods of Cancer Management*

Ben N. Saltzman, M.D.**

Cancer continues to be a serious disease. This year about 850,000 people will be diagnosed as having cancer. Close to 60,000,000 Americans will eventually have the disease. Taking all factors into consideration, almost half of all cancer patients will survive at least five years.

The public is afraid of cancer. Because of this fear, people will go to any lengths to find a quick cure. There are people available who tend to cater to this fear. Why are people afraid? Many believe that all cancers are incurable by accepted methods of treatment. Some fear the surgical knife. Others fear the after-effects of radiation. Still others want to avoid the sickness that accompanies chemotherapy. There is still social stigma attached to having cancer. It is often regarded as a contagious disease similar to leprosy. Some physicians give up too easily, thus encouraging their patients to seek other forms of treatment.

Intensive treatment is expensive in most cases. The quick-cure specialist often promises a less expensive method of treatment. That individual often provides reassurance, in most cases unwarranted. Thus a disease that is curable, because of inadequate, inappropriate treatment, can become incurable because of delay.

The problem of cancer quackery is an old one; as old as the disease itself. For centuries there have been many proposed cures for cancer. These cures included such things as escharotic fluids, cobwebs applied to external cancers, certain diets to control internal cancers, certain biological products, and often, pooled cancer products of the disease itself. Many machines and devices have been developed that deal with so-called body inbalance and acid-alkaline combinations. In all, many combinations of unproven methods have been tried.

I became interested in the problem of unproven methods of cancer management 15 years ago after serving as President of the Arkansas Division of the American Cancer Society. I learned that the people proposing cures were usually ignorant, uneducated, and misguided. Very few have had more than a high school education. However, there were also some well-educated scientists who held many degrees but who have been isolated from the mainstream of modern medicine and who truly believe that they have cancer cures different from those prescribed by modern medicine.

Cancer quacks speak a complicated jargon. They also write in the same manner; very little of which makes sense. These people also claim that organized medicine is against them; that organized medicine is highly prejudiced because what they are doing interferes with the income of physicians. They challenge established theories and they offer bitter criticisms of modern methods of cancer therapy. Their treatments are secret. They will not use biopsies to verify the illnesses they treat. Some of them have very unusual degrees after their names that have no relationship whatsoever to the education process. They state that they can provide palliation even if they cannot produce cure. They also state that they have accomplished much through research. However, the research does not stand up to investigation.

Now, how do cancer patients become involved with quacks? Usually, it starts through the good advice of neighbors and friends. These people are their own peers and they can easily identify with them. They read testimonials from people with

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whom they are acquainted. They read advertisements in books and magazines. They listen to radio and television ads which are uncontrolled, particularly in border countries. Spurious health organizations have sprung up over the country and these gain sponsorship from prominent individuals. Former United States senators have supported the Hoxey Methods of cancer treatment, the Koch Antitoxins, the Speers Chiropractic Treatment and Krebiozin.

How do we combat this type of activity? There are certain investigational standards that can be applied to all methods of therapy. These have to do with the examination of the clinical evidence; the analysis of the drugs used together with a trial on experimental animals; the observation of the effect of treatment on patients who have cancer proven by biopsy; the assessment of results by comparison with other remedies and with the natural course of the disease; the examination of autopsy data and consultation with other investigating groups.

The investigating agencies concerned with cancer are the National Cancer Institute, the American Medical Association, and the Federal Food and Drug Administration.

However, many difficulties crop up in the investigation of cancer cures. The proponents of the cure will not cooperate in any manner. They will not have biopsy materials available. Their product is usually not procurable at all by investigators. There is no autopsy data. They will not give personal interviews. The material from which their cures are compounded are not available.

The remedies they propose will cover a list that will relate to almost every letter of the alphabet. Let's go back to some of the well advertised cures that I mentioned previously. The Hoxey Method includes pills, external compounds and supportive treatment. However, none of this material is available for investigation. Krebiozin is taken from the serum of 2,000 Arabian horses injected with Actinomyces Bovis. Dr. Andrew Ivy was the chief proponent of Krebiozin.

Some other so-called cancer cures follow: In 1975, the Greek Cancer Cure, Inc., a Washington corporation, had publicized in the United States the diagnostic and therapeutic methods developed for the control of cancer by Hariton Alivizatos, M.D. in Athens, Greece. This resulted in a number of American citizens traveling to Greece for cancer treatment by Dr. Alivizatos. His treatment consisted of injections of a "serum" designed to strengthen and help the patient's immunity system fight and destroy cancer cells. The serum was also to help the body rejuvenate those cells or parts of the body that had been destroyed by cancer. After an initial blood test, the patient was to receive a series of six injections followed by another blood test to determine how "well" treatment was progressing. The serum itself was "secret". The American Cancer Society investigating the treatment received no information from Dr. Alivizatos. Despite many claims of successes, no cures have been found to date.

Another treatment is that of Dimethyl Sulfoxide (D.M.S.O.). D.M.S.O. is a by-product of the papermaking industry and has been used as an industrial solvent since the 1940's. The principal proponent is Mrs. Mildred Miller, owner and founder of Degenerative Disease Medical Center in Las Vegas, Nevada. Mrs. Miller has promoted D.M.S.O. as a treatment for such diseases as arthritis, mental illness, emphysema and cancer. She is author of a book called *A Little Dab Will Do Ya!* There have been no published results of the treatment outcomes. D.M.S.O. is usually administered intravenously. D.M.S.O. produced deleterious side effects particularly on the skin and eyes. The FDA cautions that it should be restricted to investigational use only.

The Gersun Method of treatment for cancer consisted essentially of restriction of all foods other than uncanned fresh fruits and vegetables and oatmeal. The treatment was determined to be non-effective by several investigative organizations.

About six years ago, I became more heavily involved in investigating another ineffective treatment for cancer known as Laetrile. Activists in the state were beginning to pressure members of the Legislature to enact legislation legalizing the manufacture and sale of Laetrile in Arkansas.

For those who have not been made aware of Laetrile, a short history is in order. Laetrile is properly identified as the chemical amygdalin and is produced from ground-up defatted kernels and concentrates of apricot and peach pits. For more than 20 years the promoters of this drug have claimed that it can "cure" cancer. In recent years following an inability to prove such claims, an

attempt has been made to establish it as a cancer "preventive" when used as a dietary supplement. All claims have been refuted by the American Medical Association, the National Cancer Institute, the American Cancer Society, the National Nutrition Consortium, and the Federal Food and Drug Administration.

Legal action against the proponents of Laetrile began in 1962. That year they pleaded guilty to violating the "new drug" of the Federal Food, Drug and Cosmetic Act. In 1965, after the FDA reported that there was "no competent, scientific evidence that Laetrile is effective for the treatment of cancer," the proponents agreed to a permanent court injunction against further distribution of the drug. The next year they pleaded guilty to violations of the injunction. In an attempt to test the drug in 1970, serious clinical problems in the application were found by the FDA and the project halted. In September of 1971, a committee of five cancer specialists separately reviewed and evaluated Laetrile and could find no acceptable evidence to justify clinical trials. Shortly thereafter, the FDA prohibited the interstate shipment of Laetrile in the United States.

We all know that there is, and has been, a "black market" of Laetrile in the United States. Much of the substance has been imported from Mexico and from Germany. It has been renamed B 17 and Aprikern in an attempt to get around the Federal ban. It has been distributed to health food stores. It is a dangerous drug orally. Swallowing five capsules of Aprikern or two packets of B 17 can cause death of a child from cyanide poisoning. Recently a child died from swallowing some of her father's Laetrile capsules. Actually, Laetrile is 10 times more poisonous when taken orally than by injection. If it is given by injection, it is excreted almost intact in the urine. In other words, it has practically no effect.

In 1973, an investigator for the Sloan-Kettering Institute found that amygdalin had some inhibitory effect on the development of tumors and lung mestastases in a strain of mice that develops spontaneous breast cancer. These results have never been reproduced by the Institute despite many trials. In spite of this, the proponents of Laetrile have used this information as a selling point since that time. Four additional studies, instead of duplicating those findings, resulted in the discovery that Laetrile-treated animals fared worse than the controls (those who received nothing).

One reason for not doing human experimental studies is that to experiment with Laetrile on humans would require that accepted forms of treatment would be denied cancer victims. This could not be done in good conscience with a substance so lacking in acceptable clinical proof of effectiveness.

It is my firm belief that the public now recognizes Laetrile to be worthless. The proponents must feel the same way. They now argue that a terminal cancer victim has the right to take anything he or she wants as a last resort. We can sympathize with this point of view, but we cannot condone it. Permitting the interstate transport of Laetrile to provide psychologic palliation to terminal patients or their families will potentially open the door to making the substance available to all. Having practiced medicine for more than forty years, I can testify to the fact that the human creature prefers to take the easy way out of any problem. It is normal to prefer an injection or a capsule to surgery, to hours of radiation, and to injections of chemicals with resultant periods of nausea and general malaise. The effective treatment of cancer can be a difficult experience, for the patient, for the family and for the physician. But, it is paying off in prolonged life and in actual cure. We don't want to stop the progress we have been making. We want every individual to have a chance for life. At present there are no short-cuts.

It was true that 17 states had passed laws which allowed the use of Laetrile. I have often wondered how legislators have justified the enactment of such legislation in the face of all scientific evidence to the contrary. These men and women trust their physicians in personal matters. How can they deny their knowledge and judgment in matters relating to the public health?

On June 18, 1979, the United States Supreme Court upheld a Federal Law banning interstate shipment of any drug not proved to be safe and effective. This action reversed a Federal Appeals Court ruling that drugs intended to treat patients who were terminally ill did not have to comply with the Federal Law's safety and effectiveness standards. The drug in question was Laetrile.

I can only applaud the action of the Supreme Court. It was a unanimous decision, and the only

one that could have been made. Laws are established for the protection of the public. We give up freedom of choice in many ways. We are not permitted to exceed the speed limit. We must observe stop signs. We cannot sell fraudulent stock. We cannot legally drive under the influence of drugs or alcohol. We are not permitted to kill or steal. It is true that all these laws are often violated. Does that mean that we must repeal the laws? The fact that the laws are being violated illustrates the fact that people don't always do what they are supposed to do. If Laetrile becomes easily available, people will use Laetrile first and thus delay early acceptable treatment.

The cure of cancer is a difficult matter because cancer is not a single disease. There are over 150 different forms of cancer. No one medication or form of treatment can possibly cure them all. We must carefully guard against easy and quick solutions.

The American Cancer Society has long been the recognized authority in matters concerning cancer. Its membership consists of leaders in medicine, surgery, radiology, and the basic sciences, as well as leaders in the non-scientific sectors of our population. The public recognizes the importance of this organization because it voluntarily supports its efforts financially. The Board of Directors of the ACS recently expressed the Society's official position on Laetrile: "A review of all reported material available to the American Cancer Society shows that Laetrile is not effective in the prevention or treatment of cancer in human beings. That, since there is a growing public and legislative interest in Laetrile and in its effect and use, and since the Society has a responsibility for informing the medical profession and the public at large on matters concerning cancer, the American Cancer Society reaffirms its support for the protection of the cancer patient through strict adherence to the FDA established methods of scientific testing, and further, that it does not approve of any exceptions to such methods for any particular substance."

For some reason, quackery appeals to all of us. Henry Thoreau had this to say: "Quackery is a thing universal, and universally successful. . . . No imposition is too great for the credulity of man."

We return to the feeling that a terminal or dying patient should have the right to any treatment desired . . . as a final wish if nothing else. We all know of cases that have been given up for dead who have survived. In many instances proper treatment had not been given enough time to become effective and the dying patient lived. In fact, some of the Laetrile "cures" have been instances where individuals had previously had intensive treatment and family and friends would not wait long enough to see the results. In other instances, cures have been spontaneous without treatment. We don't know all the answers. We must seek them unemotionally.

A more recent form of treatment is called the O. Carl Simonton's Psychotherapy Method. The American Cancer Society does not believe that this treatment of cancer in humans results in any objective benefit.

Dr. O. Carl Simonton was born in 1942, two years after I graduated from Medical School. We have this in common. He graduated from the University of Oregon Medical School in Portland, Oregon in 1967, 1 in 1940. He has developed a non-profit center dedicated to the study and treatment of the emotional aspects of cancer in Fort Worth, Texas. The Memorial-Sloan Kettering Cancer Center and the Mt. Sinai Hospital studied the techniques based on currently available publications and audio tapes, and came up with remarkably consistent and similar findings.

Positive aspects listed were:

1. Use of the Simonton technique encourages a sense of "doing something" about cancer and promotes a sense of reinstituting mastery — even control — over the patient's situation.
2. It promotes relaxation, thus decreasing anxiety, and temporarily leads to an increased sense of well-being.
3. The technique counteracts a psychologic sense of helplessness, and as far as is known, it has no deleterious physical effects.
4. Dr. Simonton does *not* recommend stopping standard therapies that may be advised (e.g., radiation or chemotherapy).
5. By emphasizing a positive, active attitude, Dr. Simonton may help patients adapt more appropriately to their situation.

Negative aspects however were:

1. There is no evidence of a scientific basis for Simonton's claims of efficacy.

2. There appear to be several conceptual flaws in Dr. Simonton's thinking, particularly the premise that a patient contributes to developing his cancer and has a direct personal role in curing cancer. There is no evidence for either of these views.
3. There is no evidence that reducing stress enhances the body's rejection or containment of cancer.
4. There is no evidence that the use of imagery is efficacious in altering the course of neoplasia.
5. Potential hazards for patients are associated with induction of guilt feelings, overreliance on the Simonton technique and with abandonment of generally accepted treatments, in spite of Dr. Simonton's advice to continue them.

In summary, the consensus was that although in its more positive aspects, the Simonton technique may increase patient comfort and ability to deal with cancer, there is no scientific evidence that psychological and psychosomatic factors will alter the course of the disease.

In conclusion, the American Cancer Society has been concerned and has had a concerned committee since 1955. Its chief purpose is to educate the public for its own protection. We do need greater controls through investigation, education and legislation. But the key word is education of the public, of its leadership and of the physicians themselves. This is one of the chief tasks of the American Cancer Society.

Human kindness can be manifested in many ways. The introduction of unproven methods of cancer management is not one of them.

Pediatric Update:

Pediatric Cerebellar Tumors

William M. Chadduck, M.D.*

INTRODUCTION

Intracranial tumors as a group constitute the second most common neoplasm in children. In children younger than 15 years of age, 48 percent of these tumors can be grouped into three commonly occurring cerebellar tumors: medulloblastoma, cerebellar astrocytoma and ependymoma. The common occurrence of these lesions, the developments in diagnostic modalities, and the expansion and treatment programs have prompted this review. The clinical and radiographic findings of these tumors are presented, and information concerning prognosis, newer treatment programs and the long-term effects of treatment is updated. Emphasis is placed on the recommendation for a comprehensive approach to the treatment of pediatric brain tumors.

CLINICAL PRESENTATION

In infants, the first sign of a cerebellar tumor may be an increase in the head circumference in an otherwise normal child. Posterior fossa tumors become more common in the second year of life, and cause symptoms related to increased intracranial pressure or to direct local compression of cerebellar and brain stem structures. Because of the proximity of the cerebellar tumors to the fourth ventricle, blockage of cerebro-spinal fluid produces hydrocephalus and increased intracranial pressure. Vomiting may occur on the basis of generalized, increased intracranial pressure or because of direct local pressure on the floor of the fourth ventricle by the tumor. Morning projectile vomiting should always alert the physician to the presence of a cerebellar tumor. It is interesting to note how many of the children with cerebellar tumors have had gastrointestinal contrast studies made in search of a primary gastrointestinal disturbance, prior to discovery of the brain tumor.

Infants, of course, cannot complain of headache, but older children will have headaches, frequently severe enough to awaken them. Irritability, lethargy, and impaired attention and memory also occur with generalized increased intracranial pressure.

Laterally placed cerebellar tumors will frequently show very little neurologic deficit from direct compression of nervous system structures. As the tumor grows, however, the initial sign may be a gait disturbance or ataxia with stumbling or poor coordination of movements. Some children may switch handedness because of clumsiness of one upper extremity. Another tell-tale sign of a cerebellar tumor is a head tilt, which is unexplained by pharyngitis or some other specific pathologic process.

Papilledema reflects the increased intracranial pressure and leads to a loss of visual acuity which may accelerate rapidly. As pressure increases within the head, the visual system becomes more involved with evidence of inturning of one or both eyes, due to pressure on the abrucens nerves. Nystagmus is also a frequent sign of a cerebellar or brain stem disease. Table 1 summarizes the cardinal symptoms and signs of pediatric cerebellar tumors.

DIAGNOSTIC STUDIES

Over the last decade, computerized tomographic scanning of the head has become the diagnostic standard for pediatric cerebellar tumors. Contrasted and non-contrasted CT scans should

TABLE 1
SYMPTOMS AND SIGNS OF PEDIATRIC CEREBELLAR TUMORS

Macrocephaly
Headaches, Irritability, Lethargy
Continued or Projectile Vomiting
Papilledema
Cranial Nerve VI Palsy, Unilateral or Bilateral
Nystagmus
Head Tilt
Increased Clumsiness of Extremities
Ataxic Gait

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always be done, since some cerebellar tumors are isodense with surrounding brain. Figure 1 demonstrates the most common of these tumors, the

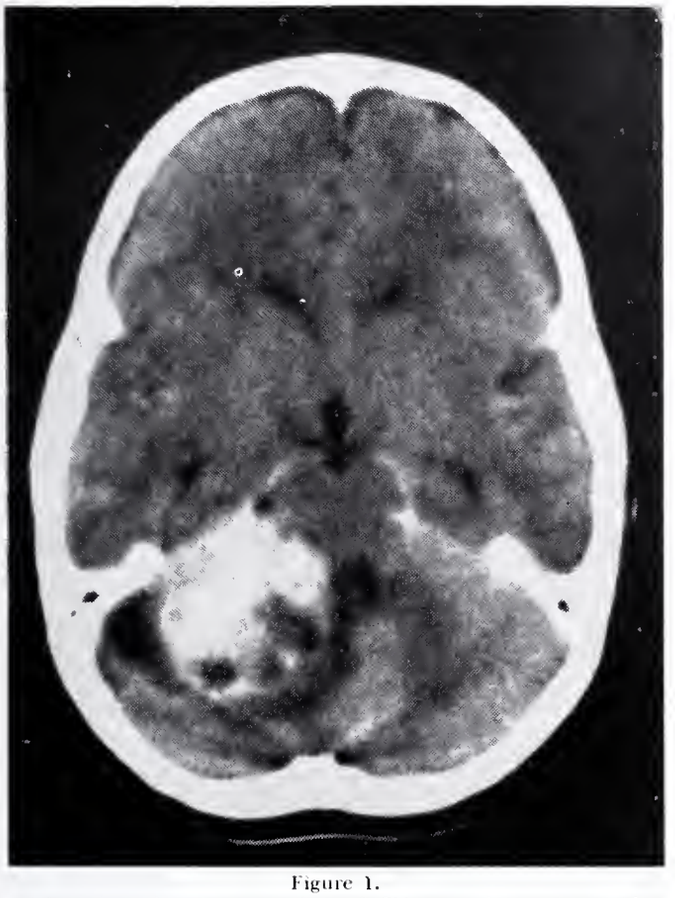


Figure 1.
Axial section of a contrast enhanced CT scan of a patient with a medulloblastoma. The lesion is markedly enhanced by contrast administration and shows multiple areas of low density necrosis.

medulloblastoma. Currently, magnetic resonance imaging is being used for the diagnosis of pediatric brain tumors and in many instances offers superior images and information concerning the type and extent of the tumor. Figure 2 shows a

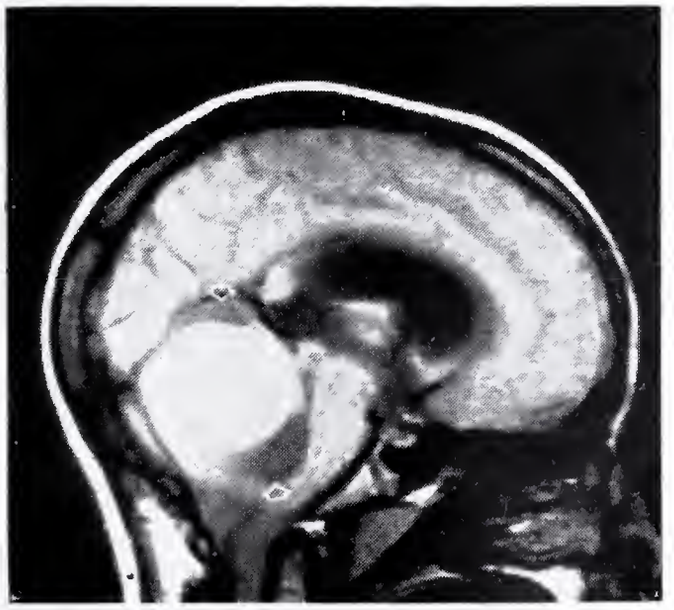


Figure 2.
Mid-sagittal section of a magnetic resonance scan showing the well circumscribed cerebellar astrocytoma with accumulations of cystic fluid (arrows) above and below the tumor and clear separation from the brain stem. Ventricular enlargement is also evident.

magnetic resonance scan of a patient with a cerebellar astrocytoma and beautifully demonstrates the size, extent and cystic characteristics of that tumor. Cerebral angiography is not utilized nearly so often as in the past, but has a place in the evaluation of patients with vascular tumors and arteriovenous malformations. Because of the frequent multicentricity of cerebellar hemangioblastomas associated with von-Hippel-Lindau's disease, angiography is still recommended in those cases. Ventriculography and pneumoencephalography are no longer done, and lumbar puncture remains an absolute contraindication in the patient suspected of having a cerebellar tumor.

MEDULLOBLASTOMA

The medulloblastoma is a tumor arising in the cerebellum, most often in the vermis or midline portion. Because of the frequent midline position, obstruction of the ventricular system and direct compression of the medulla occur early. The tumor most commonly occurs between the ages of four and eight years, and there is a male preponderance in the younger years. Although this tumor can be seen at any age, 80 percent occur in children under the age of 15.

The medulloblastoma is a highly malignant tumor. It may spread through the spinal canal by drop metastases and also has the capability of metastasizing outside of the nervous system, frequently to bone. The tumor may also spread through shunting mechanisms.

Surgical treatment attempts extensive, or gross total removal of the tumor without jeopardizing brain stem structures. Using current surgical technology, (microsurgery, ultrasonic aspiration and laser vaporization), it is possible to perform a gross total removal of most of these tumors. A relationship between extent of tumor removal and survival does exist, but surgery alone cannot be expected to cure the patient. Shunts are placed when obstruction of the ventricular system persists following operation, or failure of cerebrospinal fluid absorption occurs as a complicating problem.

Radiation therapy has proven to be effective for this radio-sensitive tumor. Because of the tendency for the medulloblastoma to spread throughout the craniospinal axis, the entire central nervous system must be radiated, and significant doses of radiation are given to the brain and spinal cord as well as to the tumor site in the posterior fossa.

Ongoing studies to evaluate the benefit of chemotherapy for treatment of medulloblastoma indicate that in recurrences of tumor, responses have been seen with chemotherapy such as Vincristine or nitrosoureas. Whether or not chemotherapy given concomitantly with radiation treatment has any long-term benefit remains a question.

With present treatment modalities, a 60 to 70 percent, five-year survival rate may be expected.[1] The medulloblastoma, a primitive neuorectodermal tumor, appears to follow Collin's Law, which states that if the patient survives his age at diagnosis plus nine months without recurrence, he may be cured of the tumor.

Long-term effects of treatment are recognized.[2] The extremely high risk of radiation therapy delivered to the nervous system of a child less than two years of age, essentially precludes its use, and ongoing studies evaluating chemotherapy as an initial postoperative treatment in patients of the younger age group are underway. Impaired growth occurs as a result of radiation therapy, most likely due to a deficiency of growth hormone. As many as 75 percent of children with medulloblastoma treated with radiation have growth hormone deficiency presumably because of hypothalamic radiation. Other hormonal abnormalities occur on the same basis, making endocrinologic follow-up a requirement for the ongoing care of these patients. Some short stature as well as scoliosis, may be a direct result of radiation of the spinal bones. These complications have led to newer protocols to reduce the amount of radiation to the brain and spinal axis, when there is no evidence of extension of the tumor outside the posterior fossa.

Related to this is the development of a comprehensive staging process for patients having medulloblastoma.[1] First, the extent of the tumor, preoperatively and postoperatively, based on its size and involvement of cerebellar or brain stem structures, is measured by CT scanning and operative information. Then, the metastatic potential is also graded, based on the results of bone scanning, bone marrow examination, complete spinal myelography to rule out implants, and examination of the cerebro-spinal fluid postoperatively for the presence of malignant cells. If the patient has a negative metastatic workup, and has evidence of gross total surgical removal of the tumor, then reduced doses of cranial and spinal axis irradiation may offer the same long-term cure rate without the severity of side effects seen with previous radiation therapy protocols.

Because medulloblastoma is such a common cerebellar tumor of childhood, great efforts are being made on a national basis to improve the treatment and outcome of patients having this lesion. At the Arkansas Children's Hospital, a cooperative effort with the Pediatric-Oncology Group allows us to gather valuable information about this lesion and at the same time participate in a multi-disciplinary approach with an organized brain tumor task force. The Association for Brain Tumor Research, a Chicago based nonprofit organization, supports extensive research in medulloblastomas and other malignant brain tumors. They also provide many publications for physicians treating, and families having patients with medulloblastomas.

CEREBELLAR ASTROCYTOMA

In contrast to the malignant medulloblastoma, the cystic cerebellar astrocytoma of childhood is potentially a surgically curable tumor. The cerebellar astrocytoma more likely arises in the cerebellar hemisphere laterally, but may be in the midline and extend to both sides. Some tumors are characterized by a large cystic component with a mural nodule; others are solid. Again, surgical treatment is effective to the extent that the tumor can be totally removed. Only when there is direct invasion of the brain stem is radical surgical removal contraindicated. The ability to plan an operation has been greatly enhanced in recent years, not only by the quality of preoperative studies to delineate the margins of the lesions, but also because of the availability of microsurgical technique and ultrasonic tractionless aspiration of these tumors. A cure rate of nearly 90 percent is expected with adequate surgical resection of cystic astrocytomas.[3]

Two histologic appearances of the tumor have been associated with different prognoses; the cyst-nodule type has been associated with a better prognosis, but more often occurs laterally and is amenable to total resection. The solid astrocytomas of the diffuse histologic type are thought to be faster growing but are also more often medially placed and unresectable because of the frequent attachment to the brain stem. The degree of resection may be a more predominant factor in cure

than is the histologic subtype.[4,5] As a rule the cerebellar astrocytomas grow slowly, and even with tumors only partially removed, prolonged survival is expected. When recurrences are progressive or symptomatic, and reoperation is feasible, then surgical treatment is once again preferred, but radiation therapy has been used. The benefit of radiation for low-grade astrocytomas of the cerebellum is questionable, and there is no indication that chemotherapy should be used. Malignant degeneration within these tumors is quite rare.

EPENDYMOMA

Only 10 percent of pediatric cerebellar tumors are ependymomas. These tumors are of variable malignancy, and generally arise from the floor of the fourth ventricle, filling that structure, and leading to early obstructive hydrocephalus. Ependymomas occur in early childhood, with a peak in incidence of two to four years; there is a slightly higher incidence in males. Figure 3

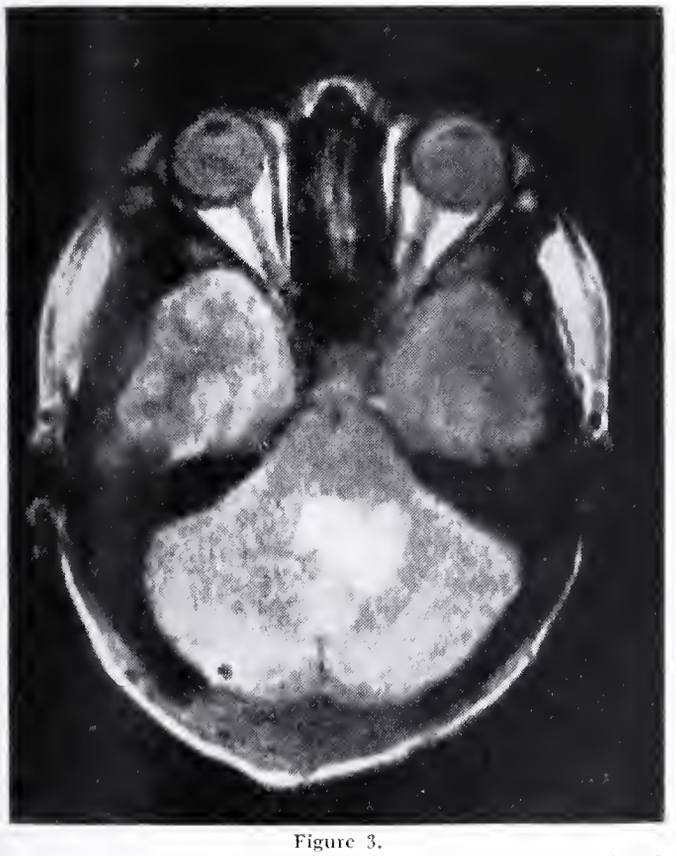


Figure 3.
Axial view of a magnetic resonance scan on a patient with a fourth ventricular ependymoma. The lesion fills and expands the fourth ventricle, and then extends laterally into the cerebellar hemisphere. Note the approximation of the tumor to the brain stem.

demonstrates the typical midline position of an ependymoma as seen on magnetic resonance scanning. The tumors are also well visualized with CT scanning, which may show a lesion of increased density with contrast enhancement, and cystic areas of necrosis. The presence of calcification in an ependymoma denotes a poorer prognosis.

Because these tumors generally arise from the floor of the fourth ventricle, it is unusual to accomplish a total removal, but using magnification and ultrasonic aspiration, a gross total removal should always be attempted. Approaching the tumor in its midline position requires division of part of the cerebellar vermis, leading at least to transient trucal ataxia. Sometimes fronds of the tumor extend up into the aqueduct of Sylvius and manipulation in these regions can often lead to disorders of eye movement.

Postoperative radiation is administered to the posterior fossa. Cranio-spinal axis irradiation is also recommended if the tumor proves to be an ependymoblastoma, or if there is evidence of seeding of the neuraxis at the time of operation or postoperative staging.[6] The outlook for children with all types of ependymomas is expressed as a 30 percent, five-year survival. The more benign histologic forms have a more favorable prognosis.

OTHER PEDIATRIC CEREBELLAR TUMORS

Occasionally, cerebellar hemangioblastomas are seen in association with von-Hippel-Lindau's disease, a phakomatosis associated with retinal angiomas, cysts of the pancreas, liver or kidney, and occasionally renal cell carcinoma. A hematopoietic factor in cerebellar hemangioblastomas accounts for an elevated hematocrit seen in these patients. Rarely, acoustic neurinomas are found in pediatric patients, but in almost all, the diagnosis of von Recklinghausen's disease must be considered.

Dermoid tumors, usually associated with a cutaneous sinus tract in the occipital bone, are also occasionally seen. Other unusual tumors include choroid plexus papillomas and cavernous hemangiomas.[7]

SUMMARY

A review of pediatric cerebellar tumors is presented. Although the clinical manifestations of these tumors has not changed, the ability to diagnosis them has markedly improved with the advent of computerized tomographic and magnetic resonance scanning. Improvements in surgical technique and equipment, as well as improved radiation techniques, have led to a better outlook for children with pediatric cerebel-

lar tumors. Ongoing studies seek to improve even more the survival and long-term morbidity related to these tumors and their treatments. The concept of a brain tumor task force with the cooperative efforts of pediatric neurosurgeons, neurologists, oncologists, radiation therapists, endocrinologists, pediatricians, and other support teams should be an appropriate consideration in this effort.

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EDITORIAL

Drscriminatory Lists

Alfred Kahn, Jr., M.D.

Discriminatory lists against physicians are contrary to the best interests of the public and organized medicine. The background is as follows:

The American form of justice has always been a system of checks and balances, both in the legal and civil area. From time to time, there is a drift in the interpretation of what's reasonable and fair toward protecting society at the expense of the individual. On other historic occasions, there seems to be a tilt toward protecting the individual at the expense of society. There seems to be a cyclic swing in many areas of human activity. This includes governments, judicial systems, biologic mechanisms, social standards, and, to a slight extent, morality. No one can readily dispute this premise. Recently in the United States there has been an economic upheaval which many economists have called "stagflation"—a coined word meaning a stagnant economy associated with rising prices and wages. This situation is economically different than most depressions in which prices and wages go down when sales slump. The economic dislocation of the current depression in America has been a trying period because with rising prices for goods and services and less income, consumers who are used to spending freely can no longer do so; the dollar simply won't go as far. The overall result of this has been that the American public has had to set up a system of priorities for an income which is more in amount and less in buying power than has heretofore been known.

This poses a classic problem. Does the public spend income money on goods, services, or just essential needs as food, shelter, and clothing? In years past, in this context, medical care is not mentioned with these essentials—but it should be now. The public needs and demands good medical care. At this juncture, another premise is relevant. The cost of medical care has risen quite sharply. When this last fact is examined statistically, it can be shown that the largest factor in the rising cost of medical care is the great expense of operating hospitals; hospitals bear the brunt of rising wages, rising costs of goods, rising costs of professional help—and, in fact, all aspects of the goods and services necessary to operate a hotel-like structure in which medical services are proffered. Physicians' fees have gone up also, but there does not seem to have been as precipitous a rise as in hospital costs; statistics about the breakdown of the cause of increasing medical costs are not entirely convincing, but hospital costs seem to be the biggest factor.

The public buys insurance in order to get adequate medical care. Recently the insurance companies have, so to speak, bucked about the rising cost of medical care, as has the public generally.

This raises the main issue of this editorial: How does one get good medical services at a fair and reasonable cost?

No one can argue that fair and reasonable cost for any goods or services should be the goal in this country where there is a, so to speak, free enterprise system. In this situation, it is enlightened self-interest for the dispenser of goods or services to sell the product at the cheapest reasonable price —that is the soundest way to achieve success in this type of society.

Currently in our depressed economy, there has appeared a rather subtle threat to the freedom of physicians in the form of *lists*. Although these lists may not have been intended to be discriminatory, it is perfectly obvious that the lists of

approved physicians being publicized by extremely large insurance companies can, so to speak, give approbation to one physician and disapproval to someone not on the list. The question which arises here is: do lists of approved physicians, based solely on their agreement to accept the fee of a third party payor, represent the best interest of the public and medicine? The answer is clearly that the goal of organized medicine in America should be excellent health care with reasonable cost containment. Lists which do not take into account the quality of health care and which are based solely on economic agreements tend to make the public oblivious to the fact that a physician should be chosen based on his skill and quality as well as a reasonable fee schedule. The point being made here is that overcharging or a too steep rise in professional charges is self-defeating and injurious to the public. On the other hand, to trying to attain this goal by what amounts to a discriminatory list is a very undesirable action. Is America to become a nation in which third party payors assume a major responsibility in approving the source of medical care for the public? The background of the medical economic problem is the depression which affects Medicare, the sale of goods, and the sale of services. The solution for the problem is general economic upturn, of course. Meantime, it would be prudent if physicians avoided unreasonable escalation of fee schedules. It would also be equally worthwhile for hospitals to try to operate on lean budgets except for the purchase of necessary medical equipment and maintenance.

This utopian view may not be attainable—but are discriminatory third party payor lists the right approach to solving the economic problem of rising physicians' costs? If this is correct, then physicians might well band together and make discriminatory lists of third party payors whom they feel have not handled physicians or patients in a proper manner. This would soon create an adversary posture between physicians and the payor insurance companies.

Perhaps the best way to handle physicians' fees where a third party is involved is for the third party to pay a set amount for the services rendered. The patient would have to make up the difference, if there were any. This has been the usual way of handling insurance payments, but organized medicine could require that physicians have a sign in their office stating that they will accept insurance payments as full payment or as a partial payment of the patient's bill. If this is coupled with a readily available list of costs, then the public would know prior to accepting any medical services what the liability is likely to be for a given service. In short, lists of physicians published by large insurors tend to be discriminatory, tend to create adversary relationships, and tend to emphasize cost of medical care without emphasizing the quality medical care.



"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

Journal of the Arkansas Medical Society
Vol. 8 No. 5 May, 1897 p. 218-219

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Newport, Ark., April 8, 1897.

Journal Arkansas Medical Society:

Dear Doctor — At the annual meeting of our society, April 6, the following officers were elected for the ensuing year: E. L. Phillips, president; E. W. Johnson, vice president; J. S. Grayham, of Tuckerman, treasurer; A. J. Brewer, secretary. The various committees will be appointed by the newly elected president at our next regular meeting, May 4. We have fifteen live members. Delegates elected to State Medical Society are A. J. Brewer, J. S. Grayham and J. M. Green, and we will be in attendance.

Fraternally,
A. J. BREWER, Secretary.

P. S. — Only men that love their profession should be elected delegates. We want men (that are not too busy to spare the time) broad between the eyes. B.

Star City, Ark., April 9, 1897.

At a regular meeting of the Lincoln County Medical Society, held at Varner, Ark., on the 6th day of April, 1897, the following proceedings were had in part, to-wit:

Drs. C. C. Price and J. A. White were elected delegates to the State Medical Society; Drs. A. S. J. Collins and W. M. Bittinger, as alternates.

The following are the names of members of the Society: Dr. W. M. Bittinger, Grady; Dr. A. S. J. Collins, Dr. W. C. Kimbro, Tyro; Dr. C. C. Price, Douglass; Dr. J. G. Worley, Varner; Dr. B. F. Tanner, Dr. J. K. McClain, Dr. J. A. White, Star City.

Enclosed you will find copy of by-laws and constitution.

Very respectfully,
W. M. BITTINGER, President.
By J. A. WHITE, Secretary.

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MEDICINE IN THE NEWS



CAMP OFFERS HIGH HOPES FOR CHILDREN WITH CANCER

"Camp High Hopes", a week-long camp for children with cancer is scheduled for August 17-22, 1986. Sponsored by the Arkansas Division of the American Cancer Society, and MED Camps, Inc., the camp will provide traditional camping activities for 35 children. This may include nature hikes, outdoor cooking, swimming, fishing, softball, drama, music and crafts. The camp focuses on developing the individual camper's potential.

The camp is managed by MED Camps of Arkansas and held at Camp Aldersgate in Little Rock. Dr. Morris Kleztel, of Children's Hospital, said, "The child's medical management program is continued during the camp sessions in accordance with the directions of each camper's physician. The camp is equipped with an infirmary, staffed with a full-time nurse, and physicians visit the camp regularly or are available on a 24-hour basis."

For more information and an application, contact the American Cancer Society, Arkansas Division, 5520 West Markham, Little Rock, Arkansas 72205; (501) 664-3480.

NATIONWIDE USE OF SAFETY BELTS INCREASES AFTER LAW PASSAGE

States with safety belt use laws in effect are reporting usage rates of the life-saving devices, ranging as high as 81% in Hawaii and 67% in Connecticut, according to studies done in various states.

In Oahu, Hawaii, 4,300 drivers and front-seat passengers were observed before and after the seatbelt law took effect. Only two weeks before the law passed, 37% of the drivers and passengers observed were wearing seat belts, as opposed to 81% after the law took effect.

Connecticut's Department of Transportation said 67% of drivers and front-seat passengers were buckling up in February, compared to 11.5% in late 1984, prior to enactment of the Connecticut belt use law. To date, 22 states and the District of Columbia have passed safety belt use laws.

CALIFORNIA WOMAN CHARGED WITH INSURANCE FRAUD

A California woman was sentenced to jail and fined recently for concealing the fact that she had other health insurance when she filed a CHAMPUS claim. She was given a one-year suspended sentence, three years' probation and was fined more than $3,500.

CHAMPUS pays *after* all other health insurance plans, except Medicaid and CHAMPUS supplements. A person's failure to mention on the CHAMPUS claim form that he or she also has other health insurance could result in the government paying more than it legally should. CHAMPUS officials noted that concealment of other insurance is just as much an act of fraud as falsifying medical bills or obtaining care for which a person is not eligible.

ASIM PUBLISHES HMO DEVELOPMENT BOOK

The American Society of Internal Medicine (ASIM) announced the publication of *A Practical Guide to Physician-Sponsored HMO Development,* a new 64-page handbook that provides step-by-step direction to physicians who are contemplating the development of a physician-sponsored health maintenance organization (HMO).

The book was prepared by Eric R. Wagner and Valerie J. Hackenberg of CareFirst Management Services of Chicago and Alexandria, VA. The guide is divided into five sections: 1) growth of HMO's; 2) feasibility; 3) organizational structure; 4) development activities; and 5) key elements of a successful HMO. Each section provides an explanation of the topic, followed by specific questions for physicians to investigate. A final section discusses recent developments that influence HMOs. Also included in the new hendbook are charts, tables, a glossary and a list of resources.

UPJOHN RESULTS OF REGAINE T.S. FOR MALE PATTERN BALDNESS

The Upjohn Company made public the results of its studies of Regaine Topical Solution (minoxidil topical solution) for male pattern baldness (alopecia androgenetica) recently, after a meeting with FDA investigators.

Regaine T.S. was tested for male pattern baldness at 27 centers from 1983 through mid-1984; 2,326 patients were enrolled and 1,833 finished the year-long study. Patients were randomly assigned to receiving 2% and 3% solutions of topical minoxidil as well as a group which received a placebo. The placebo group was crossed over to the active drug at the end of the first four months. Approximately 1,000 additional patients took part in other studies looking at the safety aspects of the compound.

The company said that based on a dose response study which compared the 2% minoxidil solution with other treatment groups at various other concentrations of the drug, the conclusion is that the 2% concentration represents the optimum clinical dose for the treatment of male pattern baldness because it exhibits the best benefit-to-risk ratio of all the concentrations studies.

Of patients assigned to the 2% group, 619 finished the study. At the end of the fourth month, 26% of the group rated their hair growth as moderate. Thirty-six percent of the group rated their hair growth as moderate after eight month and 40% rated their hair growth as moderate after the year-long study. The FDA investigators reported that of the 2% minoxidil group, 32% grew non-vellus hair (terminal hair or indeterminate hair) at four months, 61% at eight months, and 76% at 12 months. Terminal hair is classified as normal scalp-type hair, vellus hair is downy, and indeterminate hair is considered between vellus and terminal hair in length and consistency. Biopsies of skin samples showed a significant increase in the number of hair follicles and growth of additional hair.

Upjohn reported that no major side effects attributable to the drug were detected in the 27-center study; however, there were some dermatologic effects (itching, scaling, flushing and dermatitis). Upjohn has filed a New Drug Application with the FDA but it has not been approved to date. Patients have been advised not to use extemporaneous forms of minoxidil. The label for an oral form of minoxidil used for resistant hypertension was modified in 1985 to warn specifically against use of extemporaneous topical formulations containing the active ingredient.

REVISED ISSUE OF DRUG-USE INFORMATION BOOK AVAILABLE

A consumer drug-use information book, *About Your Medicines,* has been revised and updated by the United States Pharmacopeia. The USP is the organization that sets the official standards for drug quality, purity, strength, packaging and labeling in the United States.

The book profiles over 400 generic drugs or combinations. Each profile provides information on the drug's proper use, side effects, precautions, interactions, and storage; and notes information which should be considered before the medication is taken. Special precautions are listed for individuals who are pregnant, geriatric, pediatric, diabetic, breast-feeding or have high blood pressure.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

39th Annual Scientific Assembly of the Arkansas Academy of Family Physicians. July 31-August 3. Statehouse Convention Center, Excelsior Hotel, Little Rock. For more information contact: Arkansas Academy of Family Physicians, 7509 Cantrell Road, Suite 236, Little Rock, Arkansas 72207; telephone (501) 663-9075. There are activities and social functions as well as children's activities scheduled. The scientific program is listed below. Unless otherwise noted all events take place in the Governors Hall II.

THURSDAY, JULY 31

Registration
8:00 a.m.-10:00 a.m.

Exhibits Open
10:00 a.m.

Drug Therapy for Ventricular Tachycardia
Presented by G. Stephen Greer, M.D., Duke University. *10:00 a.m.*

Uterine Sampling, Office D & C
Presented by James Patrick, M.D., Associate Professor and Director, Family Practice Residency. *11:00 a.m.*

EGD, What You Can See
Presented by Dean Kumpuris, M.D., University of Arkansas for Medical Sciences. *1:30 p.m.*

Premenstral Syndrome
Presented by C. Richard Mabray, M.D., Victoria Womens Clinic, Victoria, Texas. *2:30 p.m.*

Childhood Hazards
Presented by Charles Daeschner, M.D., University of Texas, Galveston. *4:00 p.m.*

FRIDAY, AUGUST 1

Upper Airway Disease: Rhinitis, Sinusitis and Otitis
Presented by William T. Kniker, M.D., University of Texas Health Sciences Center, San Antonio, Texas. *8:30 a.m.*

AIDS Update
Presented by Terry Yamauchi, M.D., University of Arkansas for Medical Sciences. *9:30 a.m.*

Rheumatology
Presented by Thomas Stillman, M.D., Henne-

pin County Medical Center, Minneapolis, Minnesota. *11:00 a.m.*

Food Reactions and Idiosyncracies
Presented by William T. Kniker, M.D., University of Texas Health Sciences Center, San Antonio, Texas. *1:30 p.m.*

Malignant and Premaliguant Skin Lesions
Presented by Hubert T. Greenway, Jr., M.D., Scripps Clinic and Research Foundation, La Jolla, California. *3:00 p.m.*

SATURDAY, AUGUST 2

MINI-LECTURES (For registrants not participating in hands on sessions)

Malpractice Update in Arkansas
Presented by Phil Malcolm, Attorney at Law. *8:30 a.m.*

Mitral Valve Prolapse
Presented by A. J. Thompson, M.D. *9:00 a.m.*

Stroke Evaluation, The First Hours
Presented by Morrison Henry, M.D. *9:30 a.m.*

Urinary Tract Infections
Presented by John Redman, M.D. *10:15 a.m.*

Nsaids and the Kidney
Presented by Ronald Hughes, M.D. *10:45 a.m.*

Calcium Channel Blockers and Hypertension
Presented by Drew Kumpuris, M.D. *11:15 a.m.*

OPTIONAL HANDS ON SESSIONS
Ballroom, Salon B, Excelsior Hotel. *8:30 a.m. to 11:30 a.m.*

Cryosurgery
Flexible Sigmoidoscopy
Treadmill Stress Testing
Basic Dermatologic Surgery
EGD
Allergy Testing in Family Practice

Depression as Seen by the Family Physician
Presented by Joseph H. Talley, M.D., University of North Carolina. *1:30 p.m.* Ballroom Salon B, Excelsior Hotel.

The Management of Psychiatric Emergencies
Presented by James M. Turnbull, M.D., East Tennessee State University. *2:45 p.m.* Ballroom Salon B, Excelsior Hotel.

SUNDAY, AUGUST 3, 1986

Treatment of Sexual Dysfunction in an Office Setting
Presented by Sharon K. Turnbull, M.D., and James M. Turnbull, M.D., East Tennessee State University. *9:30 a.m.* Ballroom Salon C, Excelsior Hotel.

Adjourn
11:00 a.m.

TREATMENT OF PRESSURE SORES

Presented by Michael Stair, M.D., *August 20, 6:00 p.m.* North Little Rock Memorial Hospital, Doctor's Dining Room. Dinner served. One hour of Category I credit.

CLINICAL IMPLICATIONS AND MANAGEMENT OF SILENT MYOCARDIAL ISCHEMIA

Presented by Allen Seals, M.D., Baylor College of Medicine. *July 24, 12:00 noon.* Sparks Hospital, 4th floor dining room. One hour Category I credit. Sponsored by AHEC-Fort Smith Family Practice Residency Program.

TUMOR CONFERENCE—CHRONIC LYMPHATIC LEUKEMIA

Presented by Robert T. McRaney, M.D., *August 6, 7:00 a.m. Breakfast.* St. Michael Hospital, Texarkana. One hour Category I credit. Sponsored by UAMS, AHEC-Southwest.

STUDY TOUR: CHILDREN'S HEALTH CARE IN CENTRAL AMERICA

Sponsored by the University of Arkansas at Little Rock, *August 3-19, 1986.* Will tour children's health care projects in Guatemala, Honduras, Nicaragua and Costa Rica. Registration approximately $1,200 per person. C.E.U. credits available. For more information and itinerary contact: Gene Stanford, Ph.D., Arkansas Children's Hospital, 800 Marshall Street, Little Rock, Arkansas 72202; telephone 1-501-370-1149 (days), 1-501-224-4020 (evenings).

OTITIS MEDIA

Presented by Charles Bluestone, M.D. *August 22, 12:00 noon.* Sparks Hospital, 4th floor dining room. One hour Category I credit. Sponsored by AHEC-Fort Smith Family Practice Residency Program.

NEW ANTI-ARRHYTHMICS

August 28, 12:00 noon. Sparks Hospital, 4th floor dining room. One hour Category I credit. Sponsored by AHEC-Fort Smith Family Practice Residency Program.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one or two hours Category I credit.

EL DORADO — AHEC-SOUTH ARKANSAS

Behavioral Sciences Conference, first and fourth Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:00 p.m., Warner Brown Hospital.
Gynecology-Pathology Conference, second Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Pathology Conference, second Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Obstetrics-Gynecology Conference, fourth Thursday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Surgical Conference, first, second, and third Monday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Tumor Clinic, fourth Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.

FAYETTEVILLE — AHEC-NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

ICU Lecture Series, second Friday, 1:30 p.m., VAMC.
Pathology-Mortality Conference, second Thursday, 3:00 p.m., VAMC.
Radiology Conference, third Thursday, 1:00 p.m., VAMC.

FORT SMITH — AHEC

Cardiology Conference, first Wednesday, 12:00 noon, Sparks Library.
Family Practice Conference, last Wednesday, 12:00 noon, Sparks Library.
Gastroenterology Conference, first Friday, 12:00 noon, Sparks Library.
Neurology Conference, second Tuesday, 12:00 noon, Sparks Library.
Ob/Gyn Conference, third Friday, 12:00 noon, Sparks Library
Pediatric Conference, third Wednesday, 12:00 noon, Sparks Library.
Thoracic/Cardiovascular Conference, third Thursday, 12:00 noon, Sparks Library.

JONESBORO — AHEC-NORTHEAST

AHEC Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.
Chest Conference, fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Interesting Case Conference, second and fifth Tuesday, when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Cafeteria, Methodist Hospital of Jonesboro.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

General Pediatrics Seminar, each Friday, 12:00 noon, Second Floor Classroom.
Genetics Conference, each Wednesday, 1:00 p.m., Annex Conference Room.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Neuro/Oncology Conference, third Thursday, 8:00 a.m., Second Floor Classroom.
Pathology Conference, each third Tuesday, 3:00 p.m. to 4:00 p.m., Pathology Library.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Pediatric Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pediatric Neuroscience Conference, first Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Pharmacology Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Radiology Conference, second and fourth Monday, 12:00 noon, Second Floor Classroom.
Pediatric Research Conference, third Monday, 12:00 noon, Second Floor Classroom.
Pulmonary Conference, each Monday, 3:00 p.m., Second Floor Classroom.
Problem Case Conference, each Thursday, 12:00 noon, Second Floor Classroom.
Renal-Cardiology Conference, second Tuesday, 12:00 noon, Second Floor Classroom.

LITTLE ROCK — ST. VINCENT INFIRMARY

Cancer Conference, first Wednesday, 12:00 noon to 1:00 p.m., CARTI Auditorium.
Cancer Conference, third and fourth Thursday, 12:00 noon to 1:00 p.m., Room SI174K, Laboratory.
General Medicine Journal Club, first and third Tuesday, 12:00 noon to 1:00 p.m., Medical Affairs Conference Room.

Hematology-Oncology Conference, second Thursday, 12:00 noon to 1:00 p.m., Laboratory Library.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Classroom 1, Education Wing.
Neuropathology Conference, Cancelled.
Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Classroom 1, Education Wing.
Peripheral Vascular Disease Conference, Cancelled.
Pulmonary Conference, second and fourth Wednesday, 12:00 noon to 1:00 p.m., Classroom 1, Education Wing.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Anesthesia Lecture Series, each Tuesday, 7:00 a.m.; each Wednesday, 4:00 p.m., UAMS Education Building, Room G/106.
Anesthesia Morbidity and Mortality Conference, each Thursday, 4:00 p.m., UAMS Education Building, Room G/106.
GI Basic Science Conference, each Thursday, 7:30 a.m., UAMS Education Building, Room G/108A&B.
Interdisciplinary Gynecologic Cancer Conference, each Friday, 12:30 p.m., UAMS Education Building, Room G106A&B.
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.
Medicine Research Conference, each Tuesday, 8:00 a.m., UAMS Shorey Building, Room 8/105.
OB/Gyn Grand Rounds, each Wednesday, 7:30 a.m., UAMS Education Building, Room G/141B.
Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m., UAMS AAC Eye Clinic, Room 3/150. 2 hours credit.
Orthopaedic Fracture Conference, each Tuesday, 7:30 a.m., UAMS Education Building, Room B/135.
Orthopaedic Bibliography Conference, each Tuesday, 8:30 a.m., UAMS Education Building, Room B/135. 1½ hours credit.
Orthopaedic Grand Rounds, each Tuesday, 10:00 a.m., UAMS Education Building, Room B/135.
Orthopaedic Basic Science Conference, each Tuesday, 11:00 a.m., UAMS Education Building, Room B/135.
Psychiatry Grand Rounds, each Friday, 11:00 a.m., UAMS Shorey Auditorium.
Psychiatry Case Conference, each Friday, 12:00 noon, UAMS Shorey Auditorium.
Psychiatry (Child) Case Conference, each Friday, 1:00 p.m., Child Study Center Conference Room, UAMS.
St. Vincent Urology Grand Rounds, first Tuesday, 5:30 p.m., St. Vincent Infirmary, Education Building, Room 159.
Surgical Science Conference, each Saturday, 8:00 a.m., UAMS Education Building, Room G/131.
Surgery Grand Rounds, each Saturday, 9:00 a.m., UAMS Education Building, Room G/131.
Urology Grand Rounds/Urologic Topics, two to three times monthly (each), 5:00 p.m., UAMS or VAMC.
Urology Morbidity and Mortality Workshop/Uro-Radiology Workshop, once monthly, 5:00 pm., UAMS (dates vary).
VA Medical Service Teaching Conference, each Thursday, 8:00 a.m., NLRVA, Building 66, Room 38.
VA Surgery Grand Rounds, each Thursday, 12:45 p.m., LRVA, Room 2D109.
VA Weekly Cancer Conference, (Surgical Service), each Tuesday, 1:00 p.m., LRVA, Room 2D109.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Anesthesiology Conference, third Thursday, 7:00 a.m.-8:00 a.m., Conference Room 1.
Grand Rounds, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room 1.
Pulmonary Conference, each Tuesday, 12:00 noon, Shuffield Auditorium.
Surgery Conference, each Thursday, 7:30 a.m. to 8:30 a.m., Conference Room 2.

PINE BLUFF — AHEC

Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC-SOUTHWEST

Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.

As organizations accredited for continuing medical education by the Accrediation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

THINGS TO COME

July 28-30

Advanced Neurosonology Seminar. Sponsored by the Center for Medical Ultrasound, Bowman Gray School of Medicine. Snowmass Conference Center, Snowmass, Colorado. Ten hours Category I credit to be announced. Fee: $350. For further information contact: Dr. Frederick W. Kremkau, Director, Center for Medical Ultrasound, Bowman Gray School of Medicine, 300 S. Hawthorne Road, Winston-Salem, North Carolina 27103; telephone (919) 748-4505.

July 31-August 2

Advanced Applied Ultrasound in Obstetrics. Sponsored by the Center for Medical Ultrasound, Bowman Gray School of Medicine. Snowmass Conference Center, Snowmass, Colorado. Ten hours Category I credit. Fee: $350. For further information contact: Dr. Frederick W. Kremkau, Director, Center for Medical Ultrasound, Bowman Gray School of Medicine, 300 S. Hawthorne Road, Winston-Salem, North Carolina 27103; telephone (919) 748-4505.

August 24-29

Wilderness Medicine. Co-sponsored by the University of California, San Diego and the Wilderness Medical Society. Snowmass/Aspen, Colorado. 21 hours AMA/CMA credit; others pending. For further information contact: Office of Continuing Medical Education, M-017, University of California San Diego School of Medicine, La Jolla, California 92093; telephone (619) 534-3940 or (619) 452-3940.

September 5-6

Cardiology for the Primary Care Physician. Sponsored by the HCA Park View Medical Center. Nashville, Tennessee. 11.75 Category I credit. Fee: $165.00. For more information, contact Ann Booten, (800) 251-8200.

September 7-13

Doppler and 2-D Echocardiography. Sponsored by the John Hopkins University, School of Medicine, and the Institute for Medical Studies. Washington, D. C. Up to 40 hours of CME Category I credit available. Fees: Session I—Basic Echocardiography, $295; Session II—Basic Doppler Echo, $295; Session III—Clinical Doppler Echo, $395; Sessions I & II, $595; Sessions II & III, $595; and the Entire Symposium, $795. For more information contact: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Laguna Niguel, California 92677; (714) 495-4499.

September 17-19

American Cancer Society National Conference on Gynecologic Cancer — 1986. Atlanta Hilton, Atlanta, Georgia. 16½ hours AMA Category I credit. Registration before September 3, 1986: $200 physicians, $100 other health professionals. Fee after September 3, 1986: $250 physicians; $150 other health professionals. No registration fee for students, interns, residents, and American Cancer Society Fellows or Career Development Awardees. For more information contact: American Cancer Society, National Conference on Gynecologic Cancer—1986, 90 Park Avenue, New York, New York 10016.

September 22-26

Postgraduate Institute for Emergency and Primary Care Physicians, Symposia I, II, and III, and Optional Advanced Emergency Procedures Laboratory. San Diego, California. ER I—September 22-26, 1986; January 12-16, 1987; and May 4-8, 1987. ER II—August 18-22, 1986; December 8-12, 1986; March 16-20, 1987; and August 17-21, 1987. ER III—June 16-20, 1986; October 27-31, 1986; June 22-26, 1987. For brochure and more information contact: Office of Continuing Medical Education, University of California San Diego School of Medicine, M-017, La Jolla, California 92093; telephone (619) 452-3940.

September 25-27

Myocardial Dysfunction in Ischemic Heart Disease: Medical and Surgical Considerations. Sponsored by the Office of Continuing Medical Education, University of California San Diego School of Medicine. Hotel Inter-Continental, San Diego, California. Fee: To be announced. 17 CME Category I credit hours. For further information contact: Office of Continuing Medical Education, M-017; University of California San Diego School of Medicine, La Jolla, California 92093; (619) 534-3940 or (619) 452-3940.

October 17

American Cancer Society: Pediatric Oncology Symposium. Sponsored by the University of Kansas Medical Center. Battenfeld Auditorium, Uni-

versity of Kansas Medical Center. AMA Category I, AAFP, CNE, SW and PT credit available. For more information contact: Carole Rosen, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Boulevard, Kansas City, Kansas 66103; (913) 588-4480.

October 17-18

Alternative Delivery Systems: Strategies for Physician Control. Sponsored by the American Society of Internal Medicine (ASIM). Marriott Crystal Gateway Hotel, Washington, D. C. 10½ hours CME Category I credit available. Before August 1, the registration fee will be $300 for ASIM members and $375 for non-members. After August 1, the registration fee will be $350 for ASIM members and $425 for non-members. For more information contact: Teresa Crumpler, ASIM (202) 289-1700.

October 17-19

Current Advances in Pediatrics. Sponsored by the Orange County Pediatric Society/California Chapter 4 and the American Academy of Pediatrics. Disneyland Hotel, Anaheim, California. For further information contact: OCPS/California Chapter 4, AAP, Post Office Box 1297, Orange, California 92668.

October 17-19

Assessment of Arteries and Veins by Duplex Ultrasound. Sponsored by Temple University and the Institute for Medical Studies. New Orleans, Louisiana. Application has been submitted for 18 hours of CME Category I credit. Fee: $395. For more information contact: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Laguna Niguel, California 92677; (714) 495-4499.

October 21-22

Medicine and Religion: Ethics of Sexuality and Reproduction. Sponsored by the University of Kansas Medical Center. Battenfeld Auditorium, University of Kansas Medical Center. AMA Category I, AAFP, SW and CNE credit available. For more information contact: Carole Rosen, University of Kansas Medical Center, Office of Continuing Education, 39th and Rainbow Boulevard, Kansas City, Kansas 66103; (913) 588-4480.

October 23-24

Prevention, Recognition and Treatment of Agrichemical Related Exposure Conference. Cosponsored by Texas Tech University Health Sciences Center and the National Agricultural Chemicals Association. Hilton Palacio Del Rio, San Antonio, Texas. Nine Category I hours for physicians. 1.1 CEU's for nurses. For further information contact: Betsy S. Buchan, National Agricultural Chemicals Association, 1155 15th Street, N.W., 9th Floor, Washington, D. C. 20005; telephone (202) 296-1585.

October 24-25

Emergency Respiratory Care. Sponsored by the University of Kansas Medical Center. Doubletree Hotel, Overland Park, Kansas. AMA Category I, CME, AART, CRNA, CNE, MICT and PT credit available. For more information contact: Carole Rosen, University of Kansas Medical Center, Office of Continuing Education, 39th and Rainbow Boulevard, Kansas City, Kansas 66103; (913) 588-4480.

October 24-26

1986 Self-Psychology Conference: Clinical Advances in Self-Psychology. Sponsored by the Office of Continuing Medical Education, University of California San Diego School of Medicine. Vacation Village Resort, San Diego, California. Fee: $275, physicians; $175, allied health professionals; $125, full-time non-practicing students. Up to 17 CME Category I credit available. For further information contact: Office of Continuing Medical Education, M-017, University of California San Diego School of Medicine, La Jolla, California 92093; (619) 534-3940 or (619) 452-3940.

October 30-November 1

Noninvasive Vascular Diagnostic Techniques. Sponsored by Temple University and the Institute for Medical Studies. Washington, D. C. Application has been submitted for 18 hours of Category I credit. Fee: $395. For more information contact: Lise Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Laguna Niguel, California 92677; (714) 495-4499.

November 8-9

Transurethral Ureteroscopy: A Seminar and Workshop. Sponsored by the Office of Continuing Medical Education, University of California San Diego School of Medicine. La Jolla Marriott, San Diego, California. 13 CME Category I credit hours. Fee: $375. For further information contact: Office of Continuing Medical Education, M-017, University of California San Diego School of Medicine, La Jolla, California 92093; (619) 534-3940 or (619) 452-3940.

December 3-7

Ear, Nose and Throat Diseases in Children: A 1986 Update. Sponsored by the Department of Otolaryngology and Pediatrics, Children's Hospital of Pittsburgh. The Breakers, Palm Beach, Florida. 17 CME Category I credit hours. Fees: $275 for physicians; $200 for residents. For further information contact: Department of Otolaryngology, Children's Hospital of Pittsburgh, 125 De Soto Street, Pittsburgh, Pennsylvania 15213; (412) 647-6215.

December 14

Antarctic Medical Seminars. The Lecture Room of the ship M. S. Society Explorer. Depart and return to Miami, Florida. Sponsored by International Medical Seminars. Itinerary will be Punta Arenas, Chile, Strait of Magellan, Beagle Channel, Cape Horn, Drake Passage, Antarctic Peninsula, Falkland Islands, and South Georgia. 25 hours CME Category I credit. Additional cruise dates: January 9, 1987 and January 30, 1987. Fee for medical seminar tuition is $400. For additional information contact: International Medical Seminars, 125 Main Street, Westport, Connecticut 06880; telephone (203) 222-0560 or 1-800-551-0019.



PERSONAL AND NEWS ITEMS

DOCTORS JOIN HUNTSVILLE CLINIC

Dr. Jack Brackin and Dr. Hilton Lacy have joined the Huntsville Clinic recently. They will be involved in cardiac emergency and intensive care and other medical and obstetrical problems. They will furnish weekend physician coverage at the Huntsville Hospital.

WALLACE COMPLETES REQUIREMENTS

Dr. Oliver Wallace, Green Forest, has completed continuing education requirements to retain active membership in the American Academy of Family Physicians.

DR. WRIGHT COMPLETES TRAINING

Dr. William J. Wright of Earle has completed the continuing medical education training to retain active membership in the American Academy of Family Physicians. Dr. Wright has offices in West Memphis and Earle.

FINAN SPEAKS TO LIONS CLUB

Barre Finan of Little Rock, spoke recently to the Oak Forest Lions Club. His subject was "Prostate Disorders". The group met at Bowen's Restaurant in Little Rock.

NEW STAFF ELECTED AT ST. BERNARDS

St. Bernards Regional Medical Center in Jonesboro recently elected new staff officers. They are Dr. C. E. Gossett, chairman (chief of staff); Dr. J. W. Basinger, vice chief; Dr. A. H. Rusher, secretary-treasurer; Dr. J. D. Blaylock, chief elect. The new chief of surgery is Dr. W. C. Young; chief of medicine, Dr. M. G. Mackey; chief of obstetrics and pediatrics, Dr. J. T. St. Clair; and chief of family practice, Dr. R. O. Lawrence.

CLIFT HONORED BY NATIONAL MEDICAL SOCIETY

Dr. Steven A. Clift, of North Little Rock, has been elected to Fellowship to the American College of Physicians. New Fellows were honored at the College's Annual Session held in April in San Francisco, California.

PHYSICIANS JOIN THE FAMILY CLINIC

Dr. Ralph F. Joseph, II, Dr. Jeff Eisenach, and Dr. William F. Joseph have joined The Family Clinic in Little Rock. Drs. Ralph and William Joseph are brothers and the sons of Dr. Ralph Joseph of Walnut Ridge.

REID BECOMES U. S. CITIZEN

Dr. E. Paul Reid of Jonesboro recently became a naturalized American citizen. Dr. Reid is a board certified Obstetrician and Gynecologist in both the United States and Canada. He graduated from the University of Toronto Faculty of Medicine in 1962. Dr. Reid also serves as an Assistant Professor in the Department of Obstetrics and Gynecology at the University of Arkansas Medical School.



NEW MEMBERS

DR. JOHN S. FORD

Dr. John S. Ford is Miller County's newest member. Dr. Ford received his pre-medical education at A & M College of Texas and his medical education from the University of Texas in Galveston. He graduated in 1965. Dr. Ford served his internship and residency in Psychiatry at the John Sealy Hospital in Galveston. He served in the U. S. Army and the U. S. Air Force as a flight surgeon in 1980-81 and 1985. He had a private practice for 13 years in the Clear Lake City/NASA area of Texas. He was also the President of the Medical Staff at Houston Internal Hospital. Dr. Ford is board certified in Psychiatry and his office is located in Pinewood Hospital, 702 Arkansas Boulevard, Texarkana.

There are three new members in the Pulaski County Society:

DR. MARCIA LYNN HIXSON

Dr. Hixson, a Little Rock native, received her BA degree from State University of New York in 1975 and received her medical education from the University of Arkansas for Medical Sciences. She served her internship and residency at the Medical College of Virginia Hospital, specializing in Surgery and Orthopedic Surgery. In 1984 she had a Fellowship with the University of Arkansas for Medical Sciences in Hand Surgery. Dr. Hixson's specialty is Hand Surgery and her office address is 4301 West Markham, Slot 53, Little Rock.

DR. ROBERT ALEXANDER LAMBERT

Dr. Lambert attended Duke University from 1972-1976, receiving his BS in 1976. He attended the University of Arkansas for Medical Sciences, receiving his medical degree in 1980. His internship and residency were served at the University of Arkansas for Medical Sciences from 1980-1986, with specialties in Internal Medicine and Cardiology. Dr. Lambert is board certified in Internal Medicine and his office address is 2001 West Pershing, North Little Rock.

DR. KATHRYN JEAN LUCAS

Dr. Lucas, a Columbia, South Carolina native, attended Duke University, receiving her BS degree in 1975. She attended the University of North Carolina, Chapel Hill, receiving her medical degree in 1980. Dr. Lucas served her internship in Internal Medicine at Pitt Memorial Hospital, Greenville, North Carolina and her residency at Charlotte Memorial Hospital in Charlotte. Dr. Lucas is board certified in Internal Medicine and her office address is 10001 Lile Drive, Little Rock.

RESOLUTIONS



DR. DOYLE H. MORRISON

WHEREAS, the members of the Pulaski County Medical Society are saddened by the recent death of an esteemed colleague, Doyle H. Morrison, M.D., and

WHEREAS, he had won the respect of his fellow physicians for his devotion and concern for his patients in his practice of family medicine, and

WHEREAS, the membership wishes to extend deepest sympathy to Dr. Morrison's family, be it therefore

RESOLVED that this resolution be adopted as a memorial to Dr. Morrison's dedication to the medical profession, and that a copy be sent to his family as an expression of our condolences, and that a copy be made available to the Journal of the Arkansas Medical Society for publication.

By Action of the Memorials Committee

Charles H. Rodgers, M.D., Chairman
Henry Hollenberg, M.D.
Robert Watson, M.D.

August 1986

THE JOURNAL OF THE Arkansas MEDICAL SOCIETY

Vol. 83 No. 3

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IN THIS ISSUE

Head and Neck Manifestations of Renal Cell Carcinoma 117

The Physician in a Changing Society 120

Major Ambulatory Surgery: The Inguinal Herniorrhaphy as an Outpatient Procedure 125

FEATURES

Examination of the Injured Knee in the Athlete 128

Current Concepts in the Evaluation of Carotid Atherosclerotic Disease 134

Unusual Case of IUD-Associated Post-Abortal Sepsis 138

EDITORIAL

Wegener's Granulomatosis 148

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NEWS — Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

SCIENTIFIC ARTICLES

Head and Neck Manifestations of Renal Cell Carcinoma 117
Wallace C. Vaughan, M.D., and Nancy L. Snyderman, M.D.

The Physician in a Changing Society 120
D. Kay Clawson, M.D.

Major Ambulatory Surgery: The Inguinal Herniorrhaphy as an Outpatient Procedure 125
Gerald N. Weiss, M.D.

FEATURES

ECG of the Month 127
Robert Clark, M.D., and John W. Watson, M.D.

Orthopedic Trends: "Examination of the Injured Knee in the Athlete" 128
Philip H. Johnson, M.D.

Radiology Perspective: "Current Concepts in the Evaluation of Carotid Atherosclerotic Disease" 134
David T. Milton, M.D.

OB/GYN Update: "Unusual case of IUD-associated post-abortal Sepsis" 138
Ting-Chao Wong, M.D., David S. Bard, M.D., and Larry W. Pearce, M.D.

Editorial: "Wegener's Granulomatosis" 148
Alfred Kahn, Jr., M.D.

From Other Years 150
Medicine in the News 151
Keeping Up 152
Things to Come 155
Personal and News Items 158
Obituaries 159
Resolution 160

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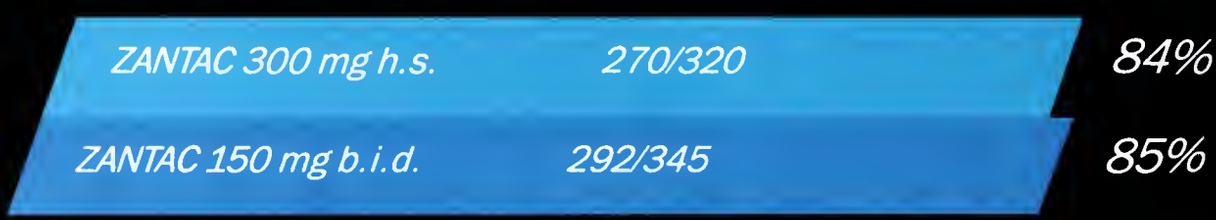
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References: 1. Data available on request, Glaxo Inc. **2.** Ireland A, Colin-Jones DG, Gear P, et al: Ranitidine 150 mg twice daily vs 300 mg nightly in treatment of duodenal ulcers. *Lancet* 1984;2:274-275. **3.** Colin-Jones DG, Ireland A, Gear P, et al: Reducing overnight secretion of acid to heal duodenal ulcers. *Am J Med* 1984; 77 (suppl 5B):116-122.

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In a dominant lethal assay, a single oral dose of 1,000 mg/kg to male rats was without effect on the outcome of two matings per week for the next nine weeks.

Pregnancy: ***Teratogenic Effects: Pregnancy Category B:*** Reproduction studies have been performed in rats and rabbits at doses up to 160 times the human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ZANTAC. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: ZANTAC is secreted in human milk. Caution should be exercised when ZANTAC is administered to a nursing mother.

Pediatric Use: Safety and effectiveness in children have not been established.

Use in Elderly Patients: Ulcer healing rates in elderly patients (
82 years of age) were no different from those in younger age gr
The incidence rates for adverse events and laboratory abnorm
were also not different from those seen in other age groups.

ADVERSE REACTIONS: The following have been reported as eve
clinical trials or in the routine management of patients treate
oral ZANTAC®. The relationship to ZANTAC therapy has
unclear in many cases. Headache, sometimes severe, seems
related to ZANTAC administration.

Central Nervous System: Rarely, malaise, dizziness, somnol
insomnia, and vertigo. Rare cases of reversible mental confu
agitation, depression, and hallucinations have been reported
dominantly in severely ill elderly patients.

Cardiovascular: Rare reports of tachycardia, bradycardia, an
mature ventricular beats.

Gastrointestinal: Constipation, diarrhea, nausea/vomiting
abdominal discomfort/pain.

Hepatic: In normal volunteers, SGPT values were increased
least twice the pretreatment levels in 6 of 12 subjects rece
100 mg qid IV for seven days, and in 4 of 24 subjects rece
50 mg qid IV for five days. With oral administration there have
occasional reports of reversible hepatitis, hepatocellular or he
canalicular or mixed, with or without jaundice.

Musculoskeletal: Rare reports of arthralgias.

Hematologic: Rare reports of reversible leukopenia, granulo
penia, thrombocytopenia, and pancytopenia.

Endocrine: Controlled studies in animals and man have sho
stimulation of any pituitary hormone by ZANTAC and no antia
genic activity, and cimetidine-induced gynecomastia and i
tence in hypersecretory patients have resolved when ZANTA
been substituted. However, occasional cases of gynecom
impotence, and loss of libido have been reported in male pa
receiving ZANTAC, but the incidence did not differ from that
general population.

Integumental: Rash, including rare cases suggestive of mil
thema multiforme, and, rarely, alopecia.

Other: Rare cases of hypersensitivity reactions (eg, bronchosp
fever, rash, eosinophilia) and small increases in serum creatin

OVERDOSAGE: There is no experience to date with deliberate
dosage. The usual measures to remove unabsorbed material
the gastrointestinal tract, clinical monitoring, and supportive
apy should be employed.

Studies in dogs receiving doses of ZANTAC® in exce
225 mg/kg/day have shown muscular tremors, vomiting, and
respiration. Single oral doses of 1,000 mg/kg in mice and rats
not lethal. Intravenous LD_{50} values in rat and mouse were 8
77 mg/kg, respectively.

DOSAGE AND ADMINISTRATION: Dosage Adjustment for Patients
Impaired Renal Function: On the basis of experience with a g
of subjects with severely impaired renal function treated
ZANTAC®, the recommended dosage in patients with a creat
clearance less than 50 ml/min is 150 mg every 24 hours. S
the patient's condition require, the frequency of dosing m
increased to every 12 hours or even further with caution. Her
alysis reduces the level of circulating ranitidine. Ideally, the d
schedule should be adjusted so that the timing of a scheduled
coincides with the end of hemodialysis.

HOW SUPPLIED: ZANTAC® 150 Tablets (ranitidine hydrochl
equivalent to 150 mg of ranitidine) are white tablets embossed
"ZANTAC 150" on one side and "Glaxo" on the other. The
available in bottles of 60 tablets (NDC 0173-0344-42) and
dose packs of 100 tablets (NDC 0173-0344-47).

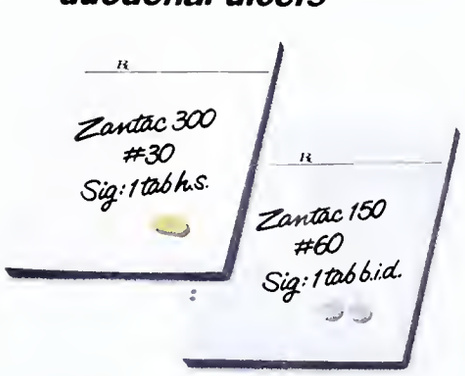
ZANTAC® 300 Tablets (ranitidine hydrochloride equivale
300 mg of ranitidine) are yellow, capsule-shaped tablets embo
with "ZANTAC 300" on one side and "Glaxo" on the other. The
available in bottles of 30 (NDC 0173-0393-40) and unit
packs of 100 tablets (NDC 0173-0393-47).

**Store between 15° and 30°C (59° and 86°F) in a dry place. Protect
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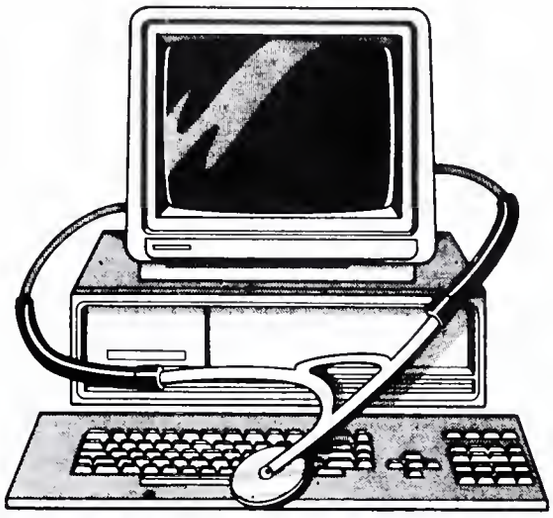
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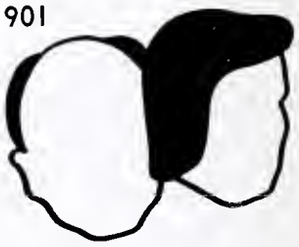
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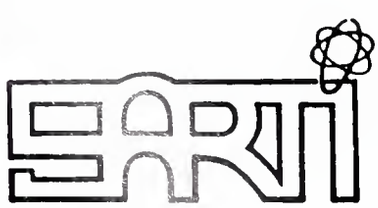
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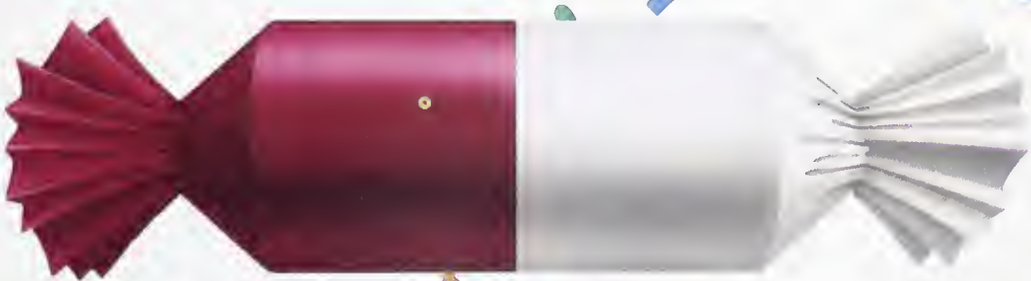
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Head and Neck Manifestations of Renal Cell Carcinoma

Wallace C. Vaughan, M.D.,* and Nancy L. Snyderman, M.D.**

Metastatic disease to the head and neck region is rare when compared with the incidence of primary neoplasms. However, breast cancer, pulmonary carcinoma, melanoma, and hypernephroma originate below the clavicles and are well known for their propensity to metastasize to the head and neck. Occurring somewhat less frequently are metastasis from the gastrointestinal tract and from the distal genitourinary tract.

Recently, at the University of Arkansas for Medical Sciences, a patient with undiagnosed renal cell carcinoma presented with a conductive hearing loss. This ultimately led to the diagnosis and treatment of her unsuspected tumor. This case history prompted a ten year chart review of cases of renal cell carcinoma treated at the University of Arkansas for Medical Sciences.

CASE REPORT

A 59-year-old white female presented to the otolaryngology clinic with a two month history of progressive, pulsatile tinnitus in the right ear. She also had mild vertigo, subjective hearing loss on the right, occasional diplopia. She had experienced two episodes of mild epistaxis in the past three months. The patient denied any systemic symptoms.

Physical exam revealed hyperemia of the right tympanic membrane and very slight proptosis O.D. The neurologic exam was normal. The remainder of the physical exam was unremarkable.

Audiometric exam revealed a 30-50 dB conductive loss AD with a type B tympanogram. The left ear was normal. A CT scan revealed a large, enhancing, vascular lesion of the right infratemporal fossa which encroached on the middle cranial fossa. Diffuse bone destruction without evidence of sclerosis was noted. Arteriography revealed a vascular mass inferior to the right temporal lobe which was supplied by the middle meningeal artery and branches from the internal maxillary artery. These findings were felt to be most consistent with a meningioma.

Laboratory data, including urinalysis, was entirely normal. With a presumptive diagnosis of a meningioma, the patient was taken to the operating room where a subtemporal craniectomy was performed via a craniofacial approach. A large, encapsulated, vascular tumor was found which extended from the middle cranial fossa posteriorally to the right orbit, without periorbital involvement. Laterally, the tumor extended to the zygoma and involved a portion of the middle ear attic. There was no intracranial component.

Frozen sections were non-diagnostic. The permanent pathology report revealed renal cell carcinoma.

An excretory urogram obtained postoperatively revealed a mass in the lower pole of the right kidney. Repeat urinalysis again revealed no hematuria. Further evaluation, including chest CT, abdominal CT, and bone scan, failed to reveal evidence of other metastatic disease.

The patient subsequently underwent a right radical nephrectomy to remove the primary tumor. She did well postoperatively and was discharged without evidence of residual disease. Her postoperative audiogram revealed that her hearing had returned to normal.

METHODS

The charts of 34 patients with renal cell carcinoma treated at the University Hospital between 1974 and 1984 were examined. Care was taken to note presenting complaints, the incidence of presentation with the classic triad (pain, hematuria, abdominal mass) and the course of the disease. Twenty-five charts of the original 34 were felt to have sufficient data for this review. The

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age at diagnosis ranged from 28 to 91 years with an average of 58 years. The male/female ratio was 1.6/1.0.

Only seven patients (28%) presented with the classic triad of symptoms. Hematuria was present in 80% of patients. Sixteen percent of patients had no symptoms related to intra-abdominal pathology. Three patients (9%) presented with head and neck disease as their initial presentations. The presentations included a metastatic scalp lesion, a lesion of the infratemporal fossa, and skull involvement.

TABLE 1

ASSOCIATED FINDINGS IN RENAL CELL CARCINOMA

Hematuria	80%
Flank pain	56%
No GU symptoms	16%

RESULTS

Seventy-six percent of these patients underwent nephrectomy and 44% were treated with chemotherapy. Twenty-nine percent received radiation therapy. Five-year survival rate was 16% and the ten-year survival rate was 8%. The average survival was approximately 2.8 years with the mean survival slightly greater than one year.

DISCUSSION

Renal cell carcinoma is an aggressive tumor with a myriad of clinical presentations and is one of the most common metastatic tumors to the head and neck region. The most frequent sites of metastatic renal cell carcinoma are the lung, liver, and bone. The incidence of metastatic disease to the head and neck area ranges from 6-15%.[1,5] However, in as many as 20% of these cases, the head and neck lesions will be the presenting sites of the tumor. In our experience, head and neck presentations occurred in 9% of the cases. Interestingly, none of these patients demonstrated pain, hematuria, or an abdominal mass.

Renal cell carcinoma arises from the epithelium of the renal tubule and, in the early stages, this encapsulated tumor grows slowly without invading surrounding tissue. As the tumor enlarges, it becomes more necrotic and invasive and soon invades the renal vasculature and surrounding tissue. After vascular invasion is established, the tumor becomes widely disseminated.[1] In most series between 25-50% of the cases have metastasis at the time of diagnosis.[2,11]

Histologically, the tumor appears benign when small (< 3 cm) and is frequently referred to as an adenoma. As it enlarges, it assumes its usual characteristics of cellular encapsulation in connective tissue, round or oval nuclei, and empty cytoplasm.

Renal cell carcinoma is known to spread by both lymphatic and hematogenous routes with the proposed mechanism to the head and neck being via the prevertebral and vertebral venous systems. In addition to early metastasis, this tumor is well known for its tendency to metastasize late in a patient's course. There are numerous reports of solitary metastases appearing more than ten years after the primary tumor has been removed. For this reason, any unusual lesion in a person with a history of renal cell carcinoma should be rigorously pursued.[3,4,7,9]

The most frequent site of distant metastasis to the head and neck is the mandible. This area is followed closely by the nose and paranasal sinuses. Lesions involving the skin, tonsils, tongue, thyroid, temporal bone, gingiva, and submandibular gland have also been reported.

Renal cell carcinoma is the most common metastatic lesion to the nose and paranasal sinuses.[6] Pulmonary carcinoma and breast carcinoma follow closely.[6,8] Renal carcinoma in the nose and paranasal sinuses usually presents as a hemorrhagic polypoid mass with nasal obstruction, nasal discharge, and epistaxis.

Frozen section interpretation of a hypernephroma metastatic to the head and neck region is unreliable because of the many tumors which may appear as clear cell lesions. The differential diagnosis of clear cell tumors must include acinic cell carcinoma, clear cell carcinoma, calcifying epithelial odontogenic tumor, mucoepidermoid carcinoma, melanoma, sarcoma (Enzinger Tumor), oligodendroglioma, ovarian clear cell carcinoma, salivary clear cell carcinamo, clear cell variant of carcinoma of the breast, seminoma, arrhenoblastoma, clear cell variant of thyroid and colonic carcinoma, and clear cell variant of endocrine tumors.[9] Whenever a clear cell lesion appears in the oral cavity, mandible, or maxilla, renal cell carcinoma should be ruled out by special staining and/or a thorough urologic workup.

The evaluation of a renal cell carcinoma is

begun with a urinalysis and excretory urogram. A CT scan and/or arteriogram may be needed to further evaluate lesions seen on IVP. Percutaneous renal mass puncture is occasionally employed. Routine chest x-rays and bons scans should be obtained. If questions exist about metastatic disease, chest and abdominal CT may be indicated prior to surgical intervention.[10] A brain scan should be obtained if warranted by symptoms.

Treatment for renal cell carcinoma is usually radical nephrectomy. It is generally agreed that a solitary metastatic lesion should be resected if feasible. This is associated with increased survival.[10,11] Radiotherapy does not alter survival patterns. It is, however, frequently useful to palliate symptoms, especially bone pain.[11] Chemotherapy and hormonal therapy with estrogens and anti-estrogens are generally disappointing with only a 20% response rate.

Some physicians advocate adjunctive radical nephrectomy in patients with known metastatic disease, which may occur in 25-50% of newly diagnosed renal cell carcinomas.[12] It is felt that patients with isolated osseous metastases have a statistically increased survival if the primary tumor is removed. A few cases have been reported of complete regression of pulmonary metastasis after removal of the primary. However, the operative mortality of 2.3-11% far exceeds the 0.8% incidence of metastatic tumor regression after nephrectomy.[2,11]

Renal cell carcinoma that is metastatic at time of diagnosis has an extremely poor prognosis with over 80% of the patients dead of disease at one year.[11] Five-year survival for surgically treated renal cell carcinoma located entirely within the renal capsule is 60%.[10] Patients with resected solitary metastases have been reported to have a 34% five-year survival rate.[10]

CONCLUSIONS

1) Metastatic renal cell carcinoma to the head and neck is an uncommon occurrence. However, it needs to be considered in the differential diagnosis of highly vascular lesions.

2) Frozen section is an unreliable method of diagnosis in clear cell tumors of the head and neck. Special stains and a complete urologic work-up, including IVP, should be conducted when warranted.

3) Solitary metastasis should be resected. A radical nephrectomy may also be performed if the primary is still present.

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"The Physician in a Changing Society"*

D. Kay Clawson, M.D.**

Charles Dickens, in *A Tale of Two Cities* said, "It was the best of times, it was the worst of times."

"We have moved from the individual institution to the multi-institutional integrated systems. We have diversified away from the traditional, acute in-patient chassis to a variety of services, some only remotely connected to what we traditionally associate as the base for health care." Quoting further from the preface to the 20th anniversary forum, 1984, of Duke University on the Incorporation of Health and Corporate Leadership, "Our problem today is not a basic dissatisfaction with the quality or quantity of health care. The major concern is that health care costs consume too big a share of available resources" and as Steven Sieverts, from New York's Blue Cross and Blue Shield says, "Today, we have three sets of competing values: one set is held by entrepreneurs, the market place and the current federal administration who believe free enterprise will result in optimum distribution of health services with maximum cost effectiveness; another set held by state governments and businesses and popularly exposed by Lee Iacoca, insists that strong regulation is necessary to ensure fair and affordable health care; and the third set is held by those who believe that health services and delivery must be based on traditional social values." Regardless of this diversity, few will argue with the conclusions of the symposium that solo practice as we know it is gone forever and in the future medical practice will be under some sort of corporate umbrella with the HMO concept taking over an increasing share of the market. Richard Reese, editor of *Minnesota Medicine,* said recently, "In the past physicians needed affability, availability and ability in that order, in the future they will need organization for marketing and survival."

I am honored to be asked to deliver the first annual Shuffield Lecture to you this morning. However, I must warn you that my propensity to address tough issues in a pragmatic style and frequently challenge the "conventional wisdom" of our times, makes audiences uncomfortable when they would rather hear a scientific presentation or a humorist. I started on this role quite by accident while attending a meeting of orthopaedic department heads in Dallas 1967, when speaker after speaker rose to say why we should decrease the length of training for orthopaedic surgeons and double the number of residents in our training programs in order to meet a serious manpower shortage. I rose from the floor to challenge the conventional wisdom of the day. No one seemed concerned that we had no solid information as to what would happen to the quality of education if training was shortened, or to the educational environment if we doubled the number of residents in training or, for that matter, we actually had no idea how many orthopaedists we needed or society could support. My remarks almost went unheeded in that it was voted to follow the conventional wisdom that had been discussed. But, a committee was formed to study the issues that I raised and I was placed on that committee. Within the year it was evident that this task required a tremendous effort. I rose to the chairmanship of that committee and for the next six years spent nearly every Wednesday working with a superb team of individuals partially funded by HEW looking at some of the manpower issues related to orthopaedic surgery. My first publication in 1971 addressed the problems and challenged the need for an ever increasing number of orthopaedists and showed that by the 1990's, we would have a surplus of orthopaedists by almost any criterion. My message was equally unpopular with residency program directors who wanted to expand the size of their programs. My message was unpopular with the practicing surgeons who were looking for young associates to join their practice and found that the salaries they were demanding were high and many could open offices in competition with the establishment. My purging from the aristocracy of the orthopaedic world and the opening up of opportunities in administration is a matter of history. I am indeed grateful for what happened in that it has been a very rewarding experience to serve for 8½ years as Dean of one medical school and now have the opportunity to be executive vice chancellor of a large university with a huge medical complex.

*The First Shuffield Lecture presented April 20, 1985 at the Annual Session of the Arkansas Medical Society.

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In addressing the future, I have been constantly reviewing where we are today from a historical perspective. First, looking at the role of the doctor in society, it is clear that the physician has not always enjoyed the place in society that he or she has today; quite the contrary. Throughout much of the past 200 years, physicians were often the second or third sons of wealthy or landed families who would not inherit the land or who were not senior or bright enough to manage the family fortunes, and thus were relegated to the role of student and later to become a physician with the hope that with the honorable title he could marry appropriately and lead a respectable life. With the expanding American frontiers, there weren't enough such individuals, and proprietary schools cropped up in which unscrupulous physicians could feather their nests through operating what amounted to no more than diploma mills. You are all familiar with the tragic state of affairs that existed in the United States at the time of the Flexnor Report, but even with the curtailment in the number of schools and lengthening of the educational process, the physicians of the 20's, 30's, and into World War II were struggling to make it economically. When World War II started, we learned two things about our health care system. First, the state of health of the American male could scarcely be called health, even judged by the standards of the day. Second, most physicians were ill-prepared to deal with civilian or military casualties. Coming out of that experience we started on the road of expansion of specialization and specialty education to improve the health care delivered in an ever-expanding technologic age. The Congress, in one of its wisest moves in history, established the National Institutes of Health to address the serious health issues in the American citizens through research. In doing so, they decided to use as the primary research organization the medical schools of this country. It was envisioned that the medical schools' research effort could ever advance the prevention and cure of disease but, with the faculty being on the forefront of new knowledge, they would immediately transfer that information to the student thus improving the entire health care system. Later I want to address what happened to the doctor, his personality and relationship with patients because of the burst of technology through research.

While we were well on the way to correcting many of the identifiable problems, an impatient society adopted a "conventional wisdom" that stated we need a hospital in each community. Hill Burton funding became available for building small hospitals in each community with the thought that this would attract and keep physicians in rural settings and that a hospital, no matter how small, staffed by one or more physicians would, in fact, bring health to the people of the community. It did in many ways improve the health of a community; it provided construction jobs and later employment for citizens in rural areas, it improved the emotional well-being, but health problems continued and, while research brought the miracles of modern medicine to many, it was not to all and by the late 1960's and early 1970's the problem identified was a "Doctor Shortage". The conventional wisdom of the day stated we did not have enough physicians. If there were more physicians, this would provide ready access to health care and improve the health and well-being of society. With the implementation of the Medicare and Medicaid entitlement programs in 1965, there was to be no financial barrier to health care and the problem would be solved by adding more physicians. Our medical schools doubled their output. Foreign medical graduates, many with questionable credentials, were allowed to enter the country in large numbers and all that we can show directly attributable to this is that the cost of health care spiraled. I say directly attributable because there is no question that American medical care is second to none in the world. Our advanced technology, diagnosis and treatment is beyond the comprehension of much of the world and it is true that while it is the free market system that has allowed this technology to spread and become available for most of our citizens, it is not the "conventional wisdom" that placed a hospital in each community or expanded the number of physicians in the United States that has either produced the technologic and research advances or accounted for the change. Several other things have been happening simultaneously. Time will not permit an analysis of each but it is important to mention them to keep things in perspective. First, with the miracle of modern medicine and the ready availability at low or no cost for this care for most people, either through private or government insurances, the average person has thrust the burden of their health onto the physician with

the expectation that the physician can and should ensure their health. If he or she fails to do so, it is the physician's fault and the latter thought has been strongly encouraged by the glut of lawyers looking for any place to file a claim and has found a fertile field in attacking the "wealthy" physician. Second, there is a conventional wisdom that continues to say the doctors make too much money. I challenge that and I believe the time is rapidly coming when we are going to lose many of the best minds from medicine to other fields as students calculate the time and education costs, and the relatively small financial return to be achieved for the hard work and long hours of the physician. Unfortunately, the eagerness of third parties, whether government or private, to cover the medical costs brought little financial restraint on the part of many physicians and hospitals. Affluent physicians showed little common sense in the way they flaunted their new found wealth before the public. I believe the physician truly earns and deserves what he or she makes. However, their new lifestyle makes them a ready target for detractors as they drive the more expensive cars, live in the largest homes, frequent the more exclusive clubs in an attempt to achieve the same lifestyle as exhibited by families with generations of wealth. The fact that high technology had indeed produced miracles has allowed some physicians to accept the credit personally and in a way deitizing themselves for these miracles. This has been exhibited in many ways but all to our detriment, and has further played into the hands of an eager legal profession hungry for malpractice suits. In a recent national presentation, Ann Landers noted, that the number one complaint patients have about physicians is that they are rarely on time for an appointment, forcing the patient to wait excessive periods of time. Another complaint is that the doctor treated them like children or dummies, unwilling to spend time to explain the problem and allow the patient to be a partner in planning the treatment program. Physicians as a group sincerely believe that their time is more valuable than that of their patients and exhibit this in a variety of ways, such as keeping patients waiting for scheduled appointments and establishing office hours for the physician's convenience rather than the patients. Merchandisers and other professionals have long since recognized that they must make themselves available at the clients' convenience if they wish to prosper at their trade or profession.

Having made these comments, I would like to look into the future at what I perceive as both problems and opportunities. I view our's as a time of crisis but, "The flip side of crisis is opportunity." I believe we have indeed an opportunity to make important changes that will not only secure our future but materially improve the health and well-being of the citizens of this country. To do so, we must not allow the policy of "divide and conquer" to win. When the government promised the people ready access to health care and that financial implications would not be a barrier, they did so without recognizing the true and legitimate cost of providing quality health care. Now, in an effort not to lose face with their constituents and to be able to say, yes, we have provided enough money for your care, it is only that the greed, overcharging or overutilization by the profession that has caused the problem. First, the Government attacked the pharmaceutical industry—attacked its profits and failed to recognize that high profits are needed if they were to continue the research necessary in the production of modern drugs so essential to the medical care we provide. Next, they attacked the hospital industry and now we find hospitals on the verge of bankruptcy. With communities determined to preserve their hospitals that generations have felt essential for citizens to enjoy the full benefits of modern medicine, we see the public sector hospitals at odds with the private—the for-profit and the non-profit vying for their own place in the sun, increasing conflicts between the teaching and the non-teaching hospitals. Within the teaching hospitals we see the university teaching hospitals and the large public charity hospitals, each seeking different approaches to solving their individual problems. While the hospital problem continued, the attack on physicians has escalated with *no* effort to freeze costs and with *no* willingness to categorically stop the 50 to 100% rise in malpractice premiums but every willingness to attack and freeze physicians' charges. Now we see efforts to cut costs of the very heart of what has made American medicine great, our extensive and superb graduate education programs. We hear suggestions that medical students can somehow afford to finish off their training at their own expense while we allow other industries to pass on the cost of finishing the education of their employees to the public, whether it be engineers,

pilots or indeed even lawyers. Now, the NIH and other Federal granting mechanism for research which have been behind the modern technologic advances that made American medicine second to none, are being held back to the point that we can scarcely keep up with inflation, let alone expand our research capacity.

What can we do? *First,* if we are to preserve what is so fundamentally sound in our system, we must find mechanisms to work together. The private sector must support the university in a manner not heretofore happening. We must join together and support our national research establishment as we work with government, industry, private and university sectors to bring about those changes that are necessary to meet a public expectation and need. We all must recognize that the public is not all that concerned about health until injury or disease strikes. We must reverse this way of thinking so that individuals are forced to take responsibility for their own health and not expect society to pay for medical care or for physicians to restore them to full health without the patient being an active participant.

Second, we must show a willingness to convert our excess number of hospitals as well as hospital beds to other legitimate uses and truly look at how small a hospital can be and still provide quality care. For many of the smaller hospitals this would mean converting to an ambulatory care center and/or an extended long-term care facility with linkages to larger hospitals for the provision of in-hospital treatment. Yet, I would remind you if we do not change care patterns for the elderly, by early in the 21st century, we will need to up hospital beds by two-thirds and up nursing home beds 300%.

Third, we must recognize no matter how badly we lament it, the small independent practice is having the same fate of the old corner grocery, or for that matter, any cottage industry. And oh, do I lament that. From an early age I worked in my uncle's corner grocery where he and his wife knew every person that came to buy their goods, kept them apprised of the best values, made home deliveries when they were ill, made an adequate but not luxurious living, and enjoyed a wonderful relationship with people. I never thought my mother would adjust to not being waited on as she had her list of things that the grocer would then go and pull off the shelf as she stood chatting with him and any neighbor that was close at hand. Yet today, few would accept not being able to peruse the long aisles of beautifully displayed groceries, making their own selections at their own pace and at a convenient hour. While this will be difficult for many of us, our students who are of a different generation will welcome a more structured life without the heavy investment and the need to run a business office themselves. They will welcome the opportunity to know that their patients will receive good care at the hands of another person in their off time.

We must therefore, evaluate the effectiveness and the quality of care delivered in a variety of alternatives rather than accept the "conventional wisdom" that one is better than another. The HMO concept is not for everyone but it is here to stay and I will predict, with pretty good data, that approximately 25% of Americans will be receiving care from an HMO before the turn of the century.

In 1975 I laughed at my Chairman of Family Practice who wanted to open a family practice clinic in the midst of one of the expanding suburban malls. How right he was as we see the drop-in clinic or the urgent care facilities cropping up in convenient sites where people conduct their banking, grocery, and department store shopping.

Fourth, we must develop a record system owned by the patient and accessible on code so that it is readily available to any physician or hospital 24 hours a day. It will be cost effective and make it possible for a patient to access the health care system in any location at a time that is convenient to them.

Fifth, we must recognize that it is not practical or possible to have a physician in every small community available 24 hours a day but, we must also recognize that as a profession we have a responsibility beyond our own patients to work in groups in a manner that we can ensure access to health care for all of our citizens by providing coverage of the geographic area that is underserved. While this might mean that a physician is not available in that community at all times, a *system* of providing care should exist. One of the current problems of our educational system and practice is we have become so enamored with our technologic excellence and so comfortable with our present mode of practice that we have forgotten the basic C's so essential to the role of a physician's creativity, caring and compassion and turned to three other C's of constraints, competi-

tion and challenges. It is essential that we be creative in looking at new ways of delivering health care, but put a caring, compassionate approach to each and every patient contact at the top of the list. Only by reemphasizing these qualities over our own busy schedules or technologic demands will a physician's role continue as one occupying a very special place in our society.

In closing, let me emphasize that I think we must be open and work together to produce new ways of health delivery, with sound evaluation of the quality of care delivered and a true analysis of the cost/effectiveness. Change is indeed upon us and as John Nesbeth said in his writings, in *Megatrends,* "those who are willing to handle the ambiguity of this in-between period and to anticipate the new era will be a quantum leap ahead of those who hold onto the past."

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Major Ambulatory Surgery

The Inguinal Herniorrhaphy as an Outpatient Procedure

Gerald N. Weiss, M.D.*

Inguinal herniorrhaphy is a major ambulatory surgical procedure which has grown in favor due to the emphasis on cost containment with quality care. The Shouldice technique of inguinal heriorrhaphy is the culmination of a century of remarkable surgical advances and lends itself to contemporary social and surgical thinking.

Some physicians feel a sense of loss of control in care of patients due to influences and regulations of insurance and governmental guarantors, particularly in the area of cost containment. The concerned physician of the past as well as the present, however, has always acted on behalf of the individual, recognizing not only the presenting medical/surgical problem but the financial and social restrictions of the patient.

Today, the surgeon has at his disposal the knowledge and, with training, the skill to provide quality care at a reasonable cost by performing out-patient care for uncomplicated inguinal hernia.

An evolution, indeed a revolution, in medicine and surgery occurred with the communication, transportation, and computer explosion of the 20th century. Matching the progress has been the advance in surgical techniques of inguinal heriorrhaphy which began with Bassini's contribution 100 years ago. Interestingly, his centennial anniversary was marked by an Arkansas surgeon-historiographer, Dr. Raymond Read, who presented the memorial lecture at the University of Padua in Italy during December, 1985.[1]

In 100 years of surgical prowess, the greats of the profession have made contributions to improved hernia techniques and holistic medical care. Marcy, Halstead, Babcock, Anson, McVay, Ravich, Watson, Shouldice, Nhyus, Lichenstein and Obney have provided further understanding in procedures and techniques. They have brought us to the place where minimal disability and complications can now be a matter of routine.

Since inguinal herniorrhaphy is the most common abdominal procedure in males and reportedly represents 15% of general surgical operations,[2] cost containment in this area is welcomed by patients, industry, insurers and government. As a herniologist performing the gamut of inguinal hernia repairs for some 35 years, I have found that the modified Shouldice repair meets requirements of cost containment, early ambulation with return to regular tasks, reduced pain and avoidance of unnecessary hospitalization.

The great majority of all inguinal hernia patients lend themselves to herniorrhaphy by a modified Shouldice technique that I have performed while in USAF Hospitals and at the Little Rock Veterans Administration Medical Center in the past 5 years. The Shouldice Hospital now reports a recurrence and infection rate below 1%.[3] In the U. S. at large, recurrence rates are reportedly as high as 20-30%. This is true of reports received in the Little Rock area especially. The basic principles of recreating a new floor of the inguinal canal, obliteration of a direct sac if present and respect for features causing recurrence such as reducing cord size and a continuous running suture for musculofascial approximation are the basis of the success of the Shouldice procedure.

Under local anesthesia, the patient can walk to and from the operating table. Visualization of the repair by the surgeon while testing it can be done with the patient coughing or straining during surgery as requested. The use of all layers of the abdominal wall and careful approximation by imbrication and multilayer closure gives added strength to the wound. Four layers of two running sutures provides the closure and buttressing effect of the layering technique for prevention of direct recurrences. Reconstruction with re-alignment and secure closure of the internal abdominal inguinal ring creates an obliquity to the inguinal cord that enhances the normal valve-like effect of this area.

The early observation of Halstead[4] that "the cord is the first cause of hernia and the ultimate obstacle to its cure" and his "radical cure" by reducing "the cord to one-fourth of its original

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size" is recognized with the techniques of partial cremasterectomy—or skeletonization of the cord. Halstead further commented in this regard when saying, "It is reasonable to suppose that the size of the cord may influence the tendency of the hernia to return." The techniques of severing the cremaster at the inguinal canal is no easy operation at times and can reflect the competency and experience of the surgeon. Another admonition of Halstead that characterizes the herniologist and his results is the fact that tissues treated with kindness do better than tissues treated in haste.

Whereas improved pre-medications allow for sedalgia as well as enhance the newer short- and long-acting anesthetics, it is now possible to avoid the recommended three day hospitalization of the Shouldice Hospital and the one day of Lichtenstein. Today, in the properly prepared patient with adequate pre-operative instruction, he may enter an ambulatory surgery setting in the morning and be discharged several hours later.

Outstanding and well-trained support personnel—anesthesiologists for "stand by", operating room technicians and circulating nurses—provide additional assurances. Although this represents a major ambulatory surgical procedure,[5] the greatest majority of patients can leave while still under the effect of the long-acting local anesthetic and return home for convalescence. Return to work is dependent on the patient's will, not the concern of the security of the wound closure. This procedure of early ambulation and return to tasks with minimal restrictions has been a hallmark of the procedure, now in excess of 150.000 cases, perfected at the Shouldice Hospital of Toronto, Canada.

Although safe, the procedure carries the risk of any major abdominal surgery, though minimal. Approximately 1 to 3% of patients, due to the extensive dissection will develop a paresthesia with numbness of the upper medial thigh that is not annoying. In over 200 personal cases, I have had only one such incident which involved sacrifice of the genital branch of the genitofemoral nerve coursing within the spermatic cord structures that were removed with the cremaster skeletorization procedure. Generally, pain is less than with the conventional European or American procedures now employed because of the running continuous sutures that distribute tension rather than interrupted sutures. The interrupted sutures under more tension may rupture and thereby allow for a higher incidence of recurrence. Wantz[6] has reported that the Shouldice procedure has less suture tension than the Bassini or McVay.

The modified Shouldice repair provides a safe, albeit more detailed and longer, technical procedure. Early ambulation with minimal work restriction is its clinical hallmark with minimal discomfort. Recurrence reported most recently at the Shouldice Hospital and others (Berlinder) is 1% in contrast to current recurrence rates throughout the country of 10-30% with other types of procedures. Patient, insurer, industry, and government welcome the cost-saving aspect of care since hospitalization can generally be avoided.

A new era in outpatient, ambulatory care for patients with inguinal hernia is here.

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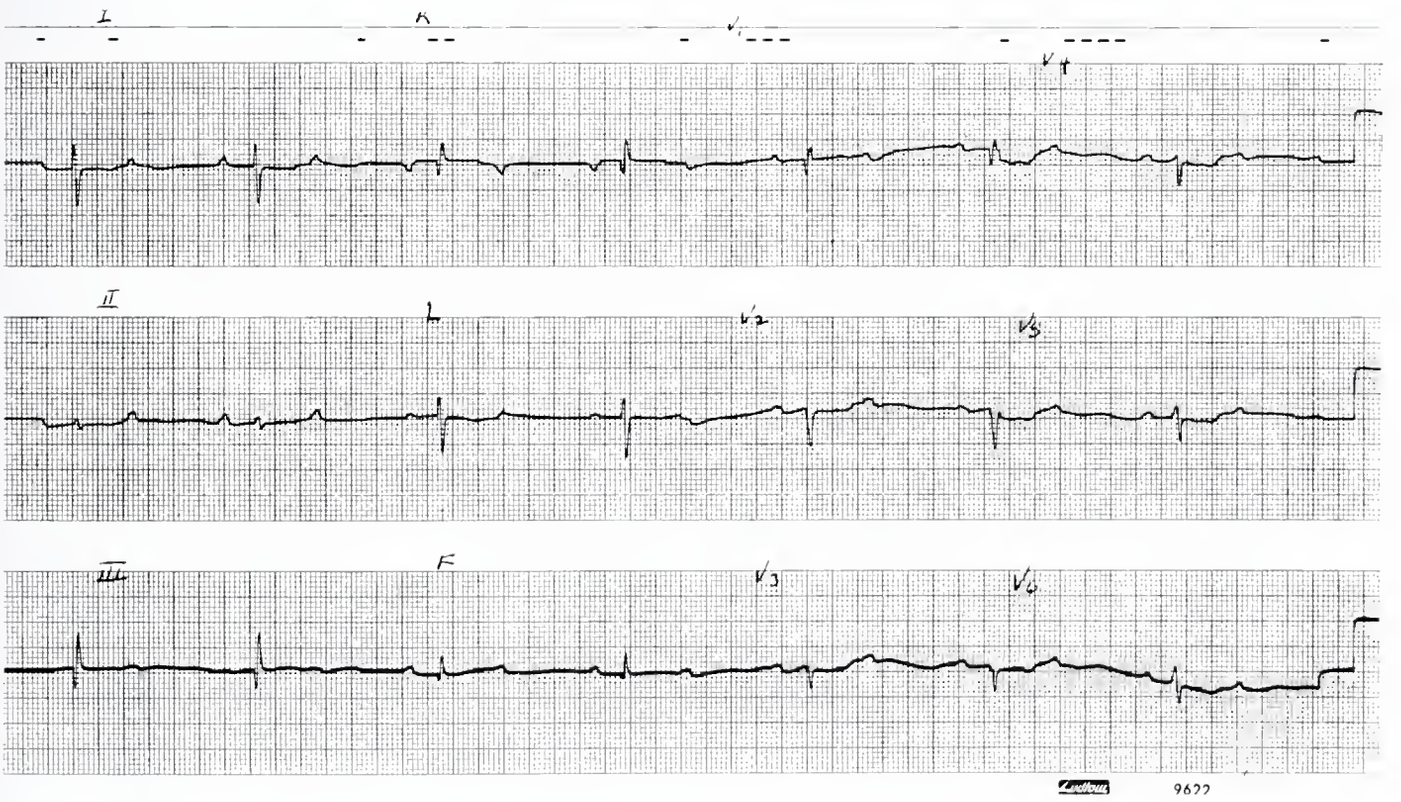
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ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 137)

HISTORY: K. L. T. is a 70-year-old man who has presented to the hospital for evaluation of syncope. His physical examination revealed two "a" waves for each "v" wave in the neck vessels. S_1 was soft. His ECG is shown. What do you think of the electrocardiogram?



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Orthopedic Trends

Examination of the Injured Knee in the Athlete

Philip H. Johnson, M.D.*

ANATOMY

The knee can be subjected to tremendous forces in highly competitive contact sports. In recent years weight training has produced stronger athletes of all ages capable of generating enormous forces upon a vulnerable knee.

The knee is primarily a hinged joint, which has some provision for rotation in the flexed position. There is however little provision for lateral strain or hyperextension.

The ligaments about the joint provide inherent stability which make running, cutting and jumping possible (Figure 1).

(1) *Medial collateral ligament (M.C.L.), two layers:*
   a) deep: a dense thickening of the medial capsule to which the medial meniscus is attached.
   b) superficial: originates, with the deep layer, for the femoral condyle and inserts two inches below the knee on the anteromedial flair of the tibia.

(2) *Lateral collateral ligament (L.C.L.):* originates from the lateral femoral condyle and inserts into the fibular head; it lies completely outside the joint.

(3) *Anterior cruciate ligament (A.C.L.):* a dense ligament originating from the lateral femoral condyle posteriorly, crossing the joint, inserting near the anterior tibial spine. The A.C.L. is composed of two main portions. The anteromedial bundle is tightest in flexion and the posterolateral bundle tightest in extension. This ligament prevents anterior translation of the tibia on the femur.

(4) *Posterior cruciate ligament (P.C.L.):* the "keystone" ligament of the knee; originates from the anterolateral portion of the medial femoral condyle crosses the A.C.L. to insert on the tibia, midline posteriorly. Menisco-

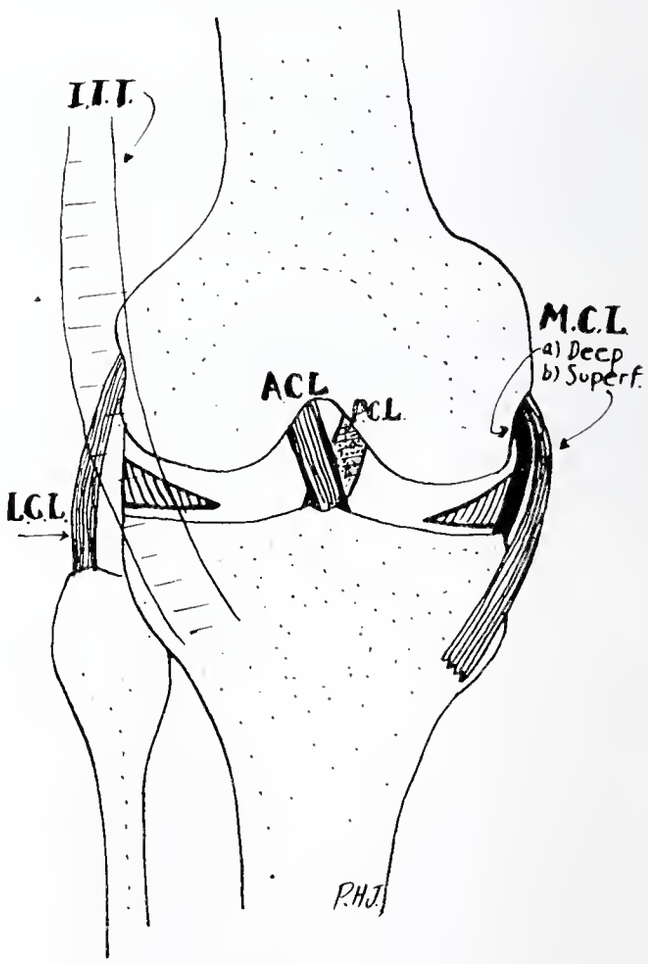


Figure 1.

*Little Rock Orthopedic Clinic, 9500 Lile Drive, P. O. Box 5270, Little Rock, Arkansas 72215.

femoral ligaments (Wrisberg and Humphrey) originate with the P.C.L. and insert along the posterior aspect of the lateral meniscus. The P.C.L. prevents posterior translation of the tibia on the femur. Both A.C.L. and P.C.L. are vital to anteroposterior stability of the knee.

(5) *Iliotibial tract (I.T.T.):* a dense fascial band originating from the tensor fascia femoris at the hip traversing the leg laterally inserting on the lateral tibial flair at Gerdy's tubercle.

The meniscii medially and laterally act as spacers between the rounded femoral condyle and the flat tibial plateau. Their main functions are to provide stability and bear weight. The medial meniscus (lunar shaped) is secured to the M.C.L. limiting its motion. The lateral meniscus (C shaped) moves more freely with the femoral condyle in flexion, extension, internal and external rotation.

HISTORY

There are two basic questions which must be dealt with by the team physician. First, is there a significant injury to a ligament(s) and/or meniscus? Second, how extensive is this injury? The answer to these questions will dictate what form of treatment should be rendered.

If the physician was not present at the time of the injury the following information is necessary. He should know the exact mechanism of injury. He must know what angle the knee was forced. He can therefore anticipate the structures which may have been injured. Was there a "pop" felt or heard? This usually implies significant ligamentous injury. Was the patient able to continue to play? If not, was he able to leave the field under his own power? What was the time between the injury and maximum knee swelling? A complete A.C.L. injury usually produces massive bleeding within the knee over a short period of time. Was there complete motion present immediately after the injury? If motion was complete, the limitation of complete extension later, at the time of examination, suggests hamstring spasm. If extension was limited, a bucket handle meniscus tear is suspected.

PHYSICAL EXAMINATION

Table 1 illustrates the five basic components of the physical examination which will be considered separately in detail.

(1) *Effusion*

A) Blood (hemarthrosis): massive hemarthrosis of the knee within the first one to three hours suggests rupture of the anterior cruciate ligament. Less bleeding over a slower period of time suggests a tear in the periphery of a meniscus. Arnosky's[2] injection studies illustrate beautifully the vascular supply to major structures about the knee. The anterior cruciate ligament is nourished by large vascular branches of the middle genicular artery. Tearing of the anterior cruciate ligament usually produces massive effusion within the knee. Injury to the peripheral one-third of a meniscus ("red zone") also produces bleeding.

B) Serous: the appearance of clear yellow fluid which occurs overnight after the injury suggests some "irritation" within the joint. This may represent an injury to a meniscus in its avascular portion.

Injuries to the M.C.L. are somewhat variable. Massive ruptures of the deep layer at the joint produce a moderate serosanguinous effusion, however fairly isolated ruptures of the origin or insertion may produce very little effusion within the knee.

TABLE 1

	M.C.L.	L.C.L.	A.C.L.	P.C.L.	Meniscus
Effusion	±	0	+++	±	±
Tenderness	above or below joint line	above or below joint line	0	0	at the joint line
Stability	lax medially in 30° flexion	lax laterally in 30° flexion	± Drawer + Lachman	+ Drawer + post. sag	normal
Range of Motion	decrease due to pain	decrease due to pain	decrease due to pain	± decreased	decreased due to mechanical block
Popping	0	0	0	0	usually +

On the lateral side of the knee, injuries to the capsular structures may produce a bloody effusion. The lateral collateral ligament however is outside the joint and may be completely ruptured without effusion.

(2) *Point of Maximum Tenderness*

Palpation of the joint begins with the knee flexed 90 degrees over the side of the examining table. The examining thumb easily finds the joint crevice between the rounded femoral condyle and the anterior tibial eminence. This line is followed medially and laterally to examine the meniscii and structures at the joint line. Tenderness at the joint line anteromedially or laterally, particularly as the knee is brought into more extension, suggests injury to a meniscus. Tenderness above or below the joint on the medial side suggests avulsion of the M.C.L. from either the femoral or the tibial side.

The cruciate ligaments are deep within the knee and isolated ruptures do not produce tenderness.

(3) *Stability*

The assessment of stability is the key to the diagnosis of significant ligament injury. This is customarily done with the patient sitting on the examining table with the knee hanging over the side. The foot may be cradled in the examiner's lap to allow the athlete to relax spastic muscles. Straight medial, lateral and anteroposterior instabilities can be evaluated in this manner. The Drawer test can be performed with the knee hanging at 90 degrees flexion. The assessment of rotatory instability is done with the patient supine upon the examining table. When assessing instabilities of the injured knee, always examine the normal knee for comparison. Some normal knees exhibit unusual ligament laxity.

The following classification for the assessment of knee instabilities was originally described by Hughston[4,5] and his associates. Figures 2 thru 8 are simplified illustrations taken from a recent in-depth article by Andrews and Axe.[1] Straight instabilities of the knee represent more or less isolated ligament injuries. Rotary instabilities represent more extensive injury to ligament groups and combinations of ligaments.

(A) Straight Medial Instability (S.M.I.) (Figure 2): with the knee in 30 degrees of flexion and with palpating fingers over the medial joint line, valgus

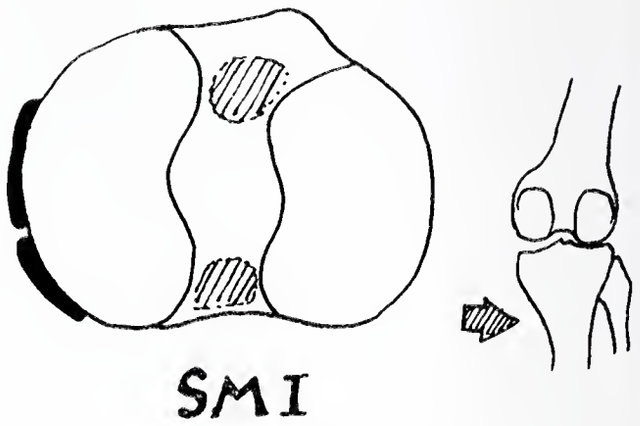


Figure 2.

strain is applied to the knee. Opening of the medial side of the joint represents rupture of the M.C.L. somewhere along its course. (If the knee were unstable in complete extension both the cruciates as well as the M.C.L. would have been torn.)

This is the most common ligament injury in the knee and is produced by a twisting injury or a valgus strain. Grade I and II injuries produce no definite opening of the medial joint space but tenderness is present along the injured portion of the ligament. Grade III injuries present definite joint laxity.

(B) Straight Lateral Instability (S.L.I.) (Figure 3): in a similar manner with the knee in 30 degrees

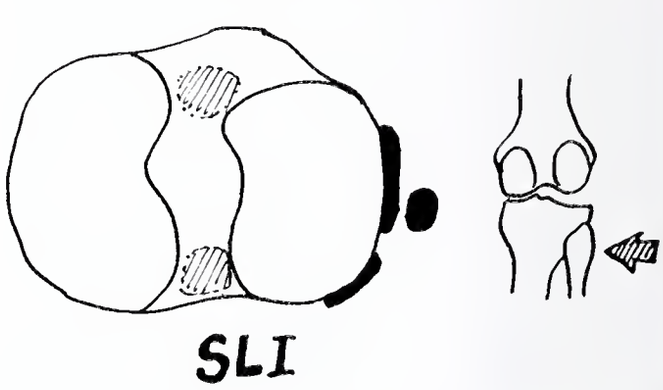


Figure 3.

of flexion, valgus strain is applied. Opening of the joint space suggests that the lateral collateral ligament and the lateral capsular structures have been torn. This is a much less frequent injury and results from a blow on the inside of the knee tearing the lateral structures.

(C) Straight Anterior Instability (S.A.I.) (Figure 4): isolated injury to the anterior cruciate ligament is assessed in two ways.

(i) The Drawer test done with the knee, over the side of the table, in 90 degrees flexion is per-

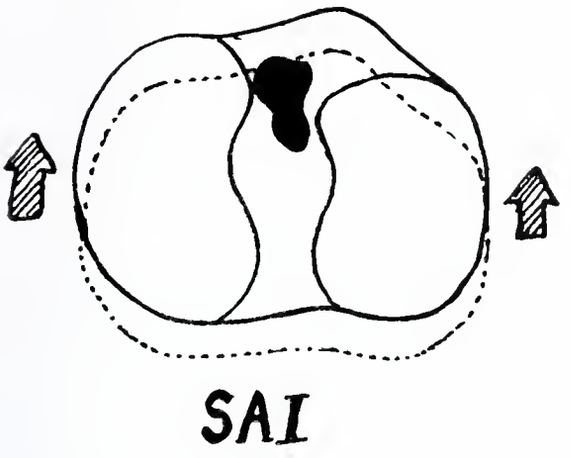


Figure 4.

formed by a forceful anterior pull on the proximal tibia. Attempt is made to sublux the tibia anteriorly. Relaxation of the patient is important with this maneuver because hamstring spasm can result in a false negative test.

(ii) A more sensitive test is the "Lachman test". With the knee in 20 to 30 degrees of flexion, the tibia is pulled forward on the secured femur and the excursion is measured. Five millimeters increase in excursion, as compared with the opposite side, represents a one plus test and every five millimeter increment represents an additional + (15 millimeters excursion = 3+). The Lachman test performed in the last several years since its introduction has been a valuable tool in assessing the integrity of the anterior cruciate ligament.

The isolated rupture of the anterior cruciate ligament has been commonly recognized for the last fifteen years. It is produced during down field running by planting the foot on the involved knee and making a quick cutting turn in the opposite direction, stretching the A.C.L. over the femoral condyle. This frequently produces an audible pop which is rapidly followed by a tense hemarthrosis.

(D) Straight Posterior Instability (S.P.I.) (Figure 5): again with the patient's knee in the 90 degree flexion position over a table, it is tested in two ways.

(i) The posterior Drawer test is positive when posterior translation of the tibia is produced on the fixed femur. A loss in the normal definite endpoint to excursion is appreciated.

(ii) With the patient lying supine on the table with the knees flexed at 90 degrees a very noticeable "posterior sag" of the tibia is noted on the injured knee. The examiner secures the foot on the table and asks the patient to extend the knee.

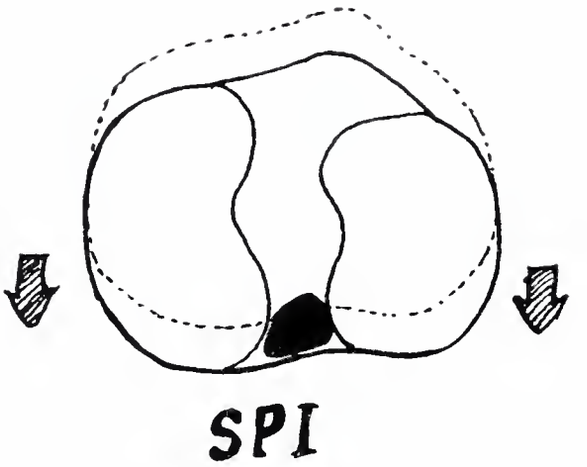


Figure 5.

Contraction of the quadriceps produces a forward thrust of the tibia that is quite remarkable and brings it up to the normal position.

Tremendous forces are necessary to rupture a posterior cruciate ligament. These are also commonly encountered in pedestrians hit head on by automobiles and in motor vehicle accidents.

(E) Anteromedial Rotatory Instability (A.M.R.I.) (Figure 6): with this injury both the

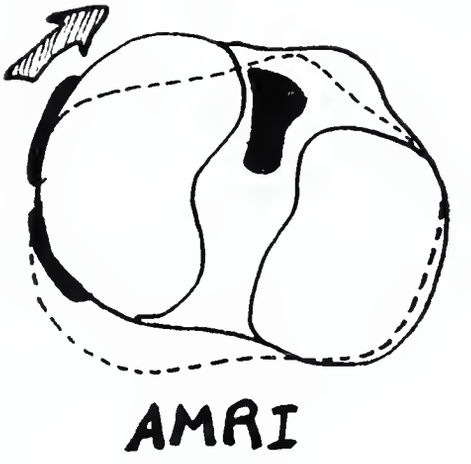


Figure 6.

anterior cruciate and the medial capsular structures are torn. This permits a positive Drawer test but in performing the Drawer test, it is easily noticed that the medial side of the tibia slides more forward than the lateral. With the tibia held in internal rotation, much less excursion of the tibia during the Drawer test is elicited. In external rotation considerable excursion is present. This injury usually results from a blow to the posterolateral knee (clipping).

(F) Anterolateral Rotatory Instability (A.L.R.I.) (Figure 7): the mirror-image of A.M.R.I.; the Drawer test in this patient is more positive with the tibia in internal rotation. The ligaments torn are the anterior cruciate ligament

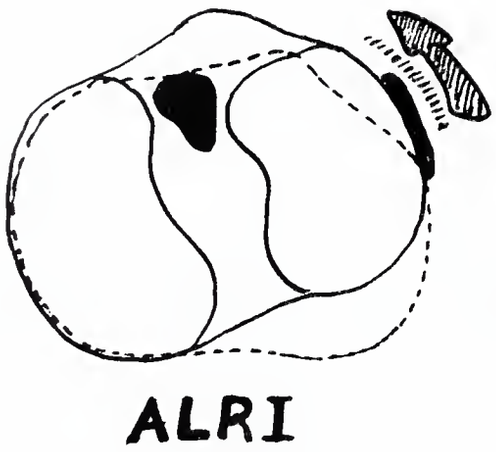


Figure 7.

and the middle third lateral capsule.

This athlete is frequently disabled when running and attempting a quick turn to the side of the leg involved, a click occurs and sudden instability results. This same joint shift is reproduced on the physical exam by the "pivot shift test" (jerk test). With the patient supine the involved ankle is grasped in one hand and valgus strain is applied, just below the knee, with the other. As the knee is moved from a position of flexion into extension a pop is felt within the knee as it passes 20 to 30 degrees. What actually occurs is the lateral tibial plateau is subluxating anteriorly on the lateral femoral condyle in extension. In the reverse direction, the tibia pops again as it passes from extension (subluxed) into flexion (reduced).

A "lateral capsular sign"[7] has been described which if seen on x-ray is invaluable in diagnosis. When a small fleck of bone is noted to have been avulsed from the joint margin laterally this represents avulsion of the attachment of the middle third of the lateral capsule. It also indicates that the anterior cruciate ligament has been torn, and the knee will develop A.L.R.I. if not treated.

(G) Posterolateral Rotatory Instability (P.L.R.I.) (Figure 8): the mechanism of this injury

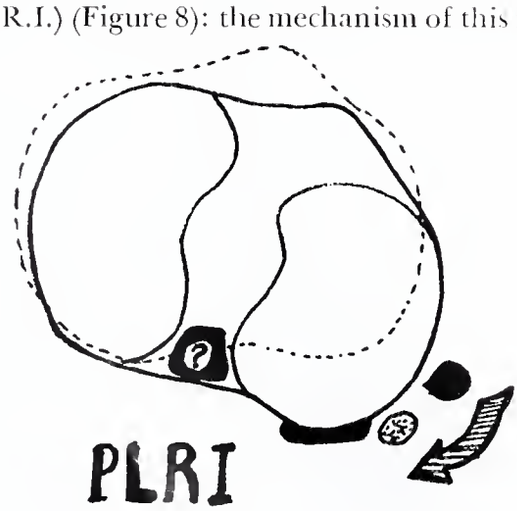


Figure 8.

is thought to be a direct blow from the inner aspect of the knee producing hyperextension. This produces rupture of the lateral collateral ligament, popliteus tendons, and arcuate ligament. The posterior cruciate ligament is sometimes torn. Two clinical tests are used in diagnosis.

(i) The "reverse pivot shift" test: with the patient supine the examiner grasps the extremity in a similar fashion as with the pivot shift test. The knee is flexed but the tibia externally rotated. The knee is gradually extended with an axial load and valgus strain applied. As the knee approaches 20 degrees of flexion a jerk-like shift is seen as the tibial plateau moves from posterior to anterior. With this deformity the lateral compartment is subluxed in flexion and reduced in extension.

(ii) The external rotation recurvatum test is also positive. This is demonstrated with the patient supine and legs extended. The examiner lifts both feet by the great toe. This produces an external rotation moment to the foot which results in recurvatum on the involved side.

(4) *Range of Motion*

Range of motion of the knee is limited by three factors.

A) Pain: limitation of the extremes of motion is commonly seen due to the patient's natural hesitancy to move a painful extremity.

B) Effusion: distension of the joint mechanically limits the extremes of flexion and extension.

C) Mechanical block: the typical "locked knee" of the bucket handle torn medial meniscus produces limitation of the last 20 degrees of extension. Beware, however, of hamstring spasm after the first few hours which can convincingly mimic a locked knee.

(5) *Popping*

Popping illicited during the physical exam is due to interarticular obstruction, most likely from a torn cartilage (rarely from a loose body).

The meniscii have been demonstrated to have a wide excursion of motion in different degrees of flexion, extension, internal and external rotation. They may therefore be caught between the femur and tibia and be torn.

The McMurray test is the classic maneuver for diagnosing a torn meniscus. This is performed with the patient supine. The examiner grasps the injured extremity by the foot. The test begins with full flexion of the knee and as the examiner passively externally rotates the foot and applies a varus strain, the foot is moved from full flexion to extension. A palpable "click" between full flexion and 45 degrees suggests a tear of the posterior medial meniscus.

The lateral meniscus is tested in a similar fashion: however, internal rotation and valgus strain is applied, as the knee is moved from full flexion into extension. Since the advent of double contrast arthrography and arthroscopy we have come to realize that many false negative McMurray tests are present in the face of frank meniscus pathology.

DISCUSSION

Noyes[6] in a study of 85 knees with acute hemarthrosis and negligible laxity has found that 72% of these athletes have anterior cruciate injury. Forty-four percent are complete tears. Other major ligament sprains are present in 21%. Meniscus tears are present in 62%, and 20% show chondral fractures or surface defects. In this series the more significant "wipe-out" knee was excluded. Therefore a bloody effusion of the knee is indicative of a significant injury within the knee joint.

The knee with anterior cruciate deficiency has within the last ten years been recognized as a handicapped knee. The athlete can no longer engage in sports which require jumping, cutting and sudden stopping. Gradually, over a period of time, the secondary restraints (capsular ligaments) are stretched and reinjury to the knee occurs to chondral surfaces and meniscii. Pain, swelling, giving way and functional deficiency result and the end stage is osteoarthritis. Chick and Jackson[3] found that 50% of cases with anterior cruciate deficiency and meniscectomy had significant x-ray changes of arthrosis in 2.6 years. Primary repair of the A.C.L. with augmentation or later reconstruction of the A.C.L. is good preventative medicine in the athlete.

Subluxing patella may mimic lesions of the meniscus. Catching and giving way may be symptoms of lateral subluxation of the patella. Skyline and Merchant x-rays along with the physical examination of tenderness about the patella medially and laterally can be diagnostic. Traumatic dislocation of the patella with spontaneous subluxation may produce a knee full of blood similar to acute anterior cruciate tear. Tenderness along a medial retinaculum rent and subcutaneous ecchymosis will help in the differential.

Fractures are usually seen on plain x-rays. Osteochondral fractures may also be seen on x-ray if searched for carefully. Both produce bloody effusions and "fat droplets" in the aspirated blood.

A Salter Type I epiphyseal separation of the distal femur may present as a lax knee and mimic M.C.L. rupture. Stress x-rays will confirm the true diagnosis.

CONCLUSION

Arthroscopy has in recent years been an invaluable tool in treating acutely injured knees in the athlete. Operative procedures are carried out on a daily basis that would have been considered impossible ten years ago. A careful physical examination however will make most "diagnostic" arthroscopies unnecessary. The key to effective treatment of the knee is early and accurate diagnosis. Complete ligament ruptures of the knee are best treated by early repair and physical rehabilitation. Early diagnosis will make possible a careful and systematic treatment plan.

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Radiology Perspective:

Current Concepts in the Evaluation of Carotid Atherosclerotic Disease

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INTRODUCTION

Cerebral vascular disease is common, and is the third leading cause of death in the United States.[1] Patients with cerebrovascular atherosclerotic disease become symptomatic either from cerebral embolism or reduction in cerebral blood flow. Atherosclerotic plaques may become ulcerated and necrotic, with deposition of platelets and thrombi in the ulcerated area. These thrombi, or pieces of the plaque itself, may then embolize into the brain. Plaque ulceration and embolization can occur alone, or concurrently with luminal stenosis.

Luminal stenosis or occlusion is the second basic mechanism by which atherosclerotic plaques cause cerebral symptoms. Any reduction in lumen diameter results in a proportionally greater reduction in cross sectional area. A 50% reduction in diameter results in a 75% reduction in cross sectional area, a 75% diameter reduction yields a 90% cross sectional reduction, and so on. At a luminal stenosis of 50%, a significant pressure gradient usually occurs with resulting blood flow reduction, and eventually complete vessel occlusion may occur. However, the hemodynamic effects of a stenosis may be difficult to predict due to the variable degree of intracranial collateral cerebral circulation.

The vast majority of extracranial atherosclerotic obstructive lesions occur at the carotid artery bifurcations or the first few centimeters of the internal carotid arteries. These plaques are segmental, and are usually not associated with concomitant intracranial disease. Thus the nature of these lesions allows successful surgical reconstruction in many cases, provided that accurate information can be obtained regarding the sites, extent, degree of stenosis, and presence of ulceration.[2]

A variety of modalities are available for the imaging of occlusive disease in the carotid arteries. These include duplex ultrasound, intravenous digital subtraction angiography, intraarterial digital subtraction angiography, and conventional angiography. The merits and disadvantages of each are discussed, and guidelines for the choice of imaging test are presented in this paper.

DUPLEX ULTRASOUND

Duplex ultrasound is an entirely noninvasive method of studying the extracranial carotids. The term "duplex" refers to the dual role of the test: a two-dimensional image of the vessel is obtained along with analysis of the actual dynamics of blood flow.

The normal carotid artery has a smooth wall, which is imaged as a sharp, regular surface on ultrasound. Atherosclerotic plaques are seen as irregularities along the wall with varying degrees of luminal narrowing. Based on the ultrasonic image, plaques can sometimes be characterized by tissue type, i.e. "soft" (necrotic, hemorrhagic) or "hard" (fibrotic, calcified). This can be important since the necrotic and hemorrhagic plaques are more likely to form cerebral emboli.

If an area of stenosis is identified on the two-dimensional image, the significance of the stenosis can be determined using the Doppler technique. The Doppler signal is produced by the reflection of the ultrasonic beam from the moving red cells. Normally, the red cells keep a constant velocity, as reflected by a constant Doppler signal. At an area of stenosis, the velocity of blood flow must increase to preserve normal arterial flow and cerebral perfusion. This increase in velocity is shown as a shift in the normally constant Doppler

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signal, which can be quantified. Also, as red cells pass beyond a point of high-grade stenosis, they slow suddenly and flow may become turbulent. Turbulence creates a wide spectrum of Doppler frequency shifts. These two parameters, velocity change and the broadness of the frequency spectrum, are the main factors in estimating the degree and significance of a given stenosis.

Duplex ultrasound has several limitations. The accuracy of the study is highly dependent on the skill and expertise of the technologist performing the study. Also, some patients may have significant lesions high in the internal carotid that cannot be imaged. Occasionally, the carotid bifurcation may be so high that the mandible interferes with the probe and a satisfactory image cannot be obtained. Finally, a large amount of calcification in a plaque can disrupt the ultrasound beam so that detail is obscured and the degree of stenosis cannot be determined.[3]

Despite its drawbacks, duplex ultrasound is the best non-invasive test for carotid disease.

INTRAVENOUS DIGITAL SUBTRACTION ANGIOGRAPHY (IVDSA)

This is one of the newer tests available for evaluation of carotid artery disease. During an intravenous injection of contrast, usually into the superior vena cava via a catheter placed through the basilic vein, radiographic exposures are made and the images are acquired and stored in digital form in a computer. The images can then be displayed and modified to enhance the vessels of interest while eliminating (subtracting) areas that are not of interest (bones, soft tissues). While this provides images that are usually quite satisfactory, the resolution is not as high as that obtained by arterial injection.

In several large series of patients referred for carotid evaluation, IVDSA has provided diagnostic quality images in about 90%. When compared with conventional angiography, technically adequate IVDSA studies have a sensitivity and specificity of about 95% for clinically significant stenoses (those greater than 60% diameter). Decisions regarding operative versus nonoperative therapy can be made on the basis of IVDSA in as many as 80% of cases.[4]

The great advantage of IVDSA is that the intravenous route eliminates many of the potential complications of intraarterial studies (hemorrhage, stroke, etc.). Intravenous digital subtraction angiography is less expensive than conventional angiography because less film is used, and also because the study can be done on an outpatient basis.

The main disadvantages of IVDSA include its inability to adequately image small but significant ulcerations. Also, the study requires a cooperative, completely motionless patient. The intravenous route of contrast administration is associated with a higher allergic reaction rate than arterial injection. A larger amount of contrast than what is used with other types of studies may be required, which may be a problem in patients with poor renal function.[5]

INTRAARTERIAL DIGITAL SUBTRACTION ANGIOGRAPHY (IADSA)

Intraarterial digital subtraction angiography applies the same technical principles as intravenous digital subtraction angiography, except that the contrast injection is intraarterial, usually directly into the vessel of interest. Images are stored in the computer and are then available for reconstruction and modification. This study is more sensitive than IVDSA, and provides higher quality images without vessel overlap. Again, since less film is used, IADSA is less expensive than conventional angiography. Furthermore, the greater sensitivity allows much less contrast material to be used, which in turn allows the use of smaller catheters (4 French). This makes outpatient angiography more feasible.

The disadvantages of intraarterial digital subtraction angiography are that intraarterial intervention carries the risk (although quite low) of more serious complications than does intravenous intervention, such as hemorrhage and stroke. Also, an IADSA study is more dependent on a cooperative, motionless patient than is conventional angiography.[6]

CONVENTIONAL ANGIOGRAPHY

The strength of conventional angiography is its superior resolution. The primary advantage this affords in the carotids is in imaging small ulcerations within plaques. An additional advantage is a greater tolerance for patient movement during the study, which is helpful if the patient is agitated or uncooperative.

The drawback of conventional angiography, compared to intraarterial digital subtraction

angiography, is that it is technically more difficult, slower, and more costly.[7] Since larger catheters are used, it is usually not done as an outpatient procedure.

Frequently conventional angiography is combined with intraarterial digital subtraction angiography to utilize the advantages of each technique in a single study.

CHOICE OF IMAGING TEST IN SUSPECTED CAROTID DISEASE

If the patient is absolutely not a candidate for surgical therapy (for example, if severe coronary artery disease is present) or a specific medical therapy, then a potentionally dangerous imaging study is not indicated. Assuming the patient is a therapeutic candidate, the choice of study can be tailored to specific symptoms and the results of noninvasive studies.

All patients seen by the General Surgery service at the University of Arkansas for evaluation of carotid disease (who are therapeutic candidates) are initially studied in the vascular laboratory with noninvasive screening tests including duplex ultrasound. The symptomatology and ultrasound results are then used in selection of further studies, if indicated.

Patients with classic carotid transient ischemic attacks (hemispheric transient ischemic attacks, ocular symptoms, classic amaurosis fugax) are commonly referred for carotid study. If the carotid ultrasound is normal, than a cardiac source of emboli is likely and this should be pursued. If no cardiac source of emboli is found, then the patient probably has a small carotid ulceration that was missed by ultrasound. One should then proceed with conventional angiography including oblique views of the vessel origins. If the ultrasound shows moderate disease, then a conventional angiogram or intraarterial digital subtraction angiography is the procedure of choice. If the ultrasound shows obvious severe disease (75% stenosis or greater), then an intravenous digital subtraction study is usually sufficient, since the main purpose of an invasive imaging study in this type of patient is to screen the intracranial vessels for occult lesions after the operative decision has been made on the basis of the ultrasound.

Another category of patients frequently referred for carotid imaging are those with atypical carotid symptoms: non-hemispheric transient ischemic attacks, memory losses, bilateral visual symptoms, i.e. "global non-lateralizing symptoms". If the ultrasound examination is normal, then other etiologies should be considered (such as cardiac emboli) since it would be almost impossible for a lesion small enough to escape ultrasound detection to be the source of global symptomatology. An abnormal duplex ultrasound should be followed up in the manner outlined in the preceding paragraph.

Patients with classic vertebrobasilar transient ischemic attacks (dizziness, speech disorders, etc.) are first studied with ultrasound since the majority of these patients will improve when their carotid lesion (if present) is corrected. If the ultrasound is normal, conventional angiography is necessary to exclude the presence of a small but

TABLE 1

SELECTION OF IMAGING BASED ON THE RESULTS OF DUPLEX CAROTID ULTRASOUND EXAMINATION

PATIENT TYPE	DUPLEX ULTRASOUND FINDING		
	NORMAL	*MODERATE DISEASE*	*SEVERE DISEASE*
CLASSIC TIA	Cardiac study Conventional angiography	Arterial digital subtraction	Venous digital subtraction
GLOBAL TIA	Cardiac study	Arterial digital subtraction	Venous digital subtraction
VERTEBROBASILAR TIA	Conventional angiography	Arterial digital subtraction	Venous digital subtraction
ASYMPTOMATIC	None	Regular clinical follow up and/or interval repeat ultrasound	Arterial digital subtraction if surgery is planned

significant lesion, especially at the origin of the vertebral arteries. An abnormal duplex ultrasound study is followed up as above, based on disease severity.

Asymptomatic patients may be referred for carotid imaging for a variety of reasons: strong family history of carotid vascular disease, severe atherosclerotic disease elsewhere (coronary arteries, extremities), or bruit. If the duplex ultrasound shows a high grade stenosis (greater than 75%), then the patient should proceed to angiography if surgery is planned. However, surgery in the asymptomatic patient is a controversial area. If the duplex ultrasound shows anything but a high grade stenosis, then the diagnostic imaging evaluation should cease. However, the clinician should stay on guard in this latter group of patients. They should be followed closely, looking for the development of transient ischemic attacks. Another approach is to follow them with serial duplex ultrasound studies watching carefully for progression of disease. If and when disease progresses to the critical point (stenosis greater than 75%), then angiography with surgical intervention may be considered.

The selection of imaging based on the duplex ultrasound findings is summarized in Table 1.

CONCLUSION

Carotid atherosclerotic disease is a common, serious problem. The judicious choice of imaging examination can contribute greatly to cost-effective patient management.

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ANSWER — Electrocardiogram of the Month

DISCUSSION: There ore two P woves for eoch QRS. The PR intervol for the conducted P wove is 0.25 seconds. The oxis is unusuol. There is weok evidence of old inferior inforction with smoll Q woves in III and AVF but relotively stronger evidence of onterior inforction with Q woves from V_1 through V_3. However, some experts would argue obout colling either inferior or onterior inforction on this troce. An IVCD is present with the QRS durotion at 0.10 seconds. Thus, the ECG shows second degree heort block with 2:1 conduction. Mobitz II block is probably present. The feoture editor wishes to thonk Dr. Clork of Conway, Arkonsos for his ossistonce with this month's ECG.

OB/GYN Update

Unusual Case of IUD-associated Postabortal Sepsis Complicated by an Infected Necrotic Leiomyoma, Suppurative Pelvic Thrombophlebitis, Ovarian Vein Thrombosis, Hematoperitoneum and Drug Fever

Ting-Chao Wong, M.D.,* David S. Bard, M.D.,* and Larry W. Pearce, M.D.**

ABSTRACT

A case is reported of suppurative pelvic thrombophlebitis with ovarian vein thrombosis that developed in a young woman with an 18 week IUD-associated spontaneous abortion and a necrotic fundal leiomyoma colonized with Staphylococcus aureus. In addition, the patient had a prolonged and stormy clinical course complicated by lingering sepsis, Staphylococcus aureus and Serratia marcescens bacteremia, hematoperitoneum, drug fever, and three major operations. The overall pathogenesis of this sequence of events and the ensuing management of these problems are discussed. The literature is reviewed briefly.

INTRODUCTION

Although suppurative thrombophlebitis with ovarian vein thrombosis may occur following abortion,[1] obstetrical delivery[2] and pelvic surgery,[3] this condition is now rarely encountered.[4] In the past, the condition was associated with a high mortality rate.[5] Today, a few patients will succumb to the condition, but the overall mortality is low because of newer and better antibiotics, anticoagulant therapy and selected surgical procedures. A still controversial issue is whether a vena caval ligation should be performed in addition to removing the infected necrotic pelvic tissues and excising or ligating the thrombosed ovarian veins.[5,6]

The following case is that of a young woman with a mid-trimester IUD-associated abortion and a necrotic leiomyoma colonized with Staphylococcus aureus. She developed suppurative pelvic thrombophlebitis and ovarian vein thrombosis, and subsequently underwent three major operations over a period of 33 days.

A retrospective histological examination of the placental membranes revealed colonization of the chorion by cocci. This important finding was probably a harbinger of the septic clinical course.[7]

CASE REPORT

AG, a 29-year-old black woman, para 2-0-1-2, at 18 weeks' gestation, was admitted to the hospital with lower abdominal pain and moderate uterine bleeding for approximately two hours.

The patient was seen initially in the clinic nine weeks after her last normal menses. However, on pelvic examination, the examiner felt that the uterus was approximately 15 weeks' size. At that time, she gave a history of having had an IUD, of unknown type, inserted six years earlier, but no IUD string was visible on examination. A pelvic ultrasound confirmed a gestational age between nine and ten weeks and the presence of an IUD in the uterus. Further history on the visit at 13 weeks' gestation revealed that she had been using one tampon per day for continued vaginal spotting. She was told at that time to discontinue the tampons. Her obstetrical history included two uncomplicated vaginal deliveries and a right salpingectomy nine years previously for a ruptured tubal pregnancy.

Examination on admission at 18 weeks' gestation revealed a temperature of 99.2 F, pulse of 88 beats per minute, respiration rate of 22 breaths per minute, blood pressure of 120/80 mmHg. and weight 126 lb. The abdomen was soft and nontender, and the costovertebral angles were not tender. The uterus was diffusely tender and the

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fundal height was 21 cm. The cervix was fully dilated with bulging membranes.

About an hour after admission, the patient expelled an 18 week fetus with membranes intact. Examination of the placenta revealed a 25% placental abruption and an imbedded Lippes loop.

Twelve hours later, the patient's temperature spiked to 101.4 F (Figure 1). Bladder symptoms were absent and both costovertebral angles were nontender. Mild rebound was present in both lower quadrants. The uterus was eight weeks' size and moderately tender. Both adnexal areas were also tender. The cervical os was open and draining non-malodorous lochia. The clinical impression was acute postabortal endometritis. Cultures were obtained from the endometrial cavity and blood, and the patient was started on IV ampicillin and gentamicin.

On the third hospital day, the temperature spiked to 105 F. The previous cultures grew Staphylococcus aureus sensitive to nafcillin. Ampicillin was discontinued and nafcillin was begun. The aborted specimen showed "mild acute chorionitis with a normal 179 g fetus and placenta".

On the fourth day, the peak temperature was 103.6 F. Pelvic examination revealed a 15 weeks' size tender uterus with a 2 cm firm mass in the anterior uterine wall. The clinical impression was postabortal sepsis with a small leiomyoma. It was felt that the patient had an infected placental site and microabscesses of the myometrium. Clindamycin was added to the antibiotic regimen. Pelvic ultrasound showed prominent endometrial echoes representing retained blood clots or metal material and a 4.5 cm mass in the anterior uterine wall consistent with a leiomyoma.

On the fifth day, a gentle but thorough curettage was carried out to rule out retained tissues, and additional anaerobic and aerobic cultures were obtained from the uterine cavity. The specimen was scanty and later showed "acute suppurative inflammation, but no products of conception".

On the sixth hospital day, the temperature rose to 102.8 F. The clinical impression was suppurative pelvic thrombophlebitis and the patient was started on therapeutic heparin by continuous infusion. The fever persisted.

On the eighth day, the patient's temperature was 104 F and the abdominal wall was rigid with

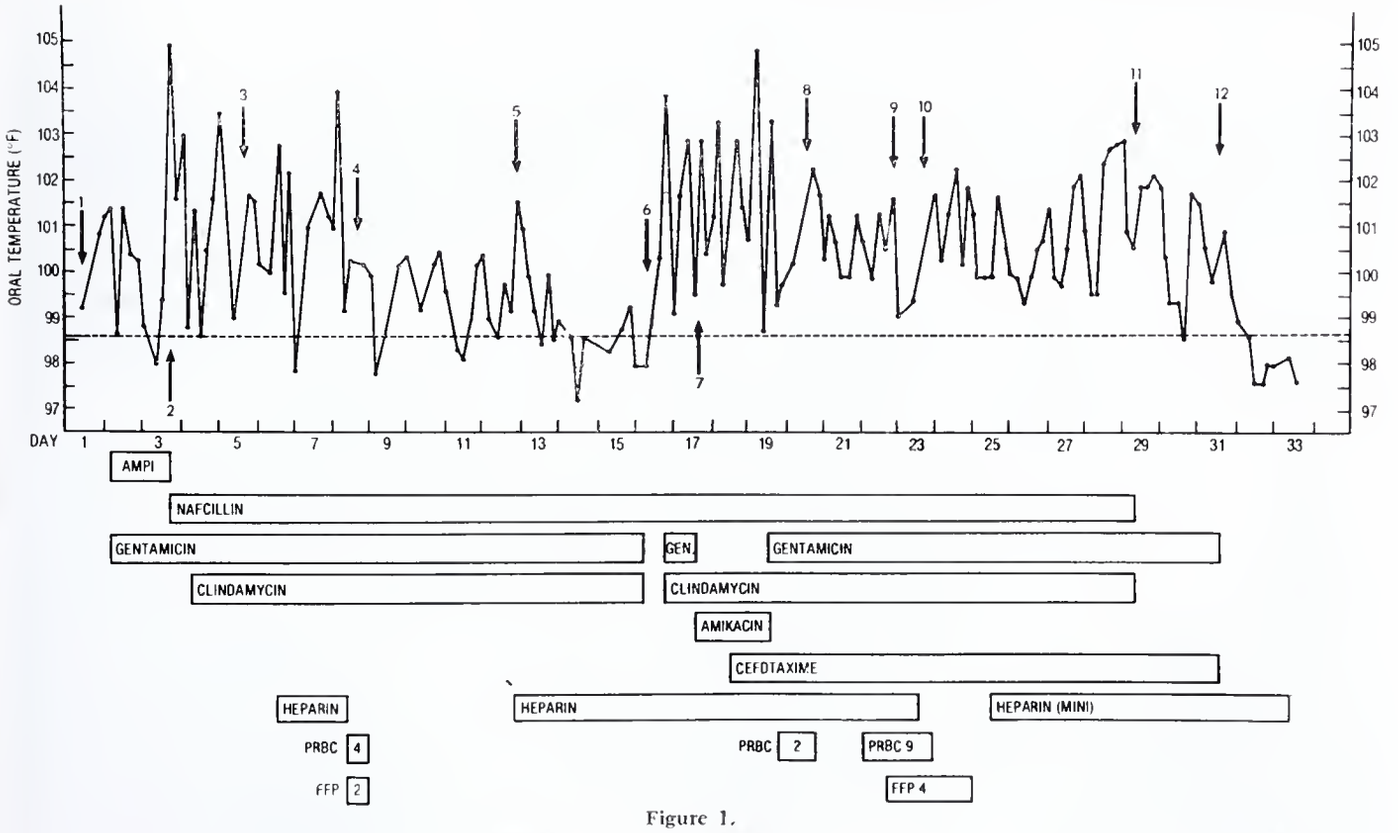


Figure 1.

Patient's Temperature and Management Chart

1. Spontaneous complete abortion at 18 weeks' gestation
2. Blood and endometrial cultures (Staphylococcus aureus)
3. Postabortal D&C
4. Abdominal hysterectomy and left salpingectomy
5. Therapeutic heparin started
6. Gentamicin and clindaymcin stopped, nafcillin continued
7. Gram-negative rod in blood cultures (Serratia marcescens)
8. Excision of right ovarian vein and bilateral oophorectomy
9. Hematoperitoneum
10. Abdominal exploration
11. Nafcillin and clindamycin stopped
12. Gentamicin and cefotaxime stopped

rebound in both lower quadrants. The clinical impression was septic abortion unresponsive to antibiotics, curettage, and heparin. The patient underwent abdominal exploration. The uterus was 16 weeks' size, acutely inflamed and boggy. It contained a 5 cm degenerating intramural leiomyoma in the fundus (Figure 2) and a 2 cm subserous leiomyoma in the anterior wall. The left fallopian tube was erythematous and the right tube was absent. Both ovaries were normal, and the ovarian and pelvic veins were free of palpable blood clots. A hysterectomy and left salpingectomy were performed. The nafcillin, gentamicin, and clindamycin were continued. Histologic review showed "acute suppurative endometritis with extension into the myometrium, suppurative thrombophlebitis (Figure 3), a necrotic leiomyoma, and a normal left oviduct." Later, a Brown and Brenn stain[8] for bacteria revealed venous thrombi infected with gram-positive cocci (Figure 4). Massive bacterial colonization was also found in the necrotic leiomyoma (Figures 5, 6). The patient's temperature remained below 100.6 F for the next three days.

On hospital day 12 (fourth postoperative day), the temperature rose to 101.6 F. Therapeutic heparin was restarted for possible pelvic thrombophlebitis. The temperature declined to normal.

On hospital day 16, gentamicin and clindamycin were discontinued since all previous cultures had shown that the Staphylococcus aureus was sensitive to nafcillin. The temperature rose soon afterward to 101 F. Additional blood cultures were obtained and the gentamicin and clindamycin were reinstituted.

On the 17th day a cardiac click was heard, but an echocardiogram was within normal limits. A chest x-ray, IVP, ventilation-perfusion scan and pelvic and abdominal ultrasounds were normal. Since the recent blood cultures were growing a gram-negative rod, amikacin was added to the nafcillin and clindamycin regimen and the gentamicin stopped. Furthermore, the infectious disease consultant recommended adding cefotaxime for its purported synergistic effect against gram-negative bacilli. The organism was later identified as Serratia marcescens.

Despite episodes of high fever, the patient had very few symptoms other than a headache and low back pain. Her appetite was good, and the bowels and urinary tract were functioning well. The abdomen was soft and nontender with a



Figure 2.
Necrotic fundal leiomyoma in 420 g uterus.

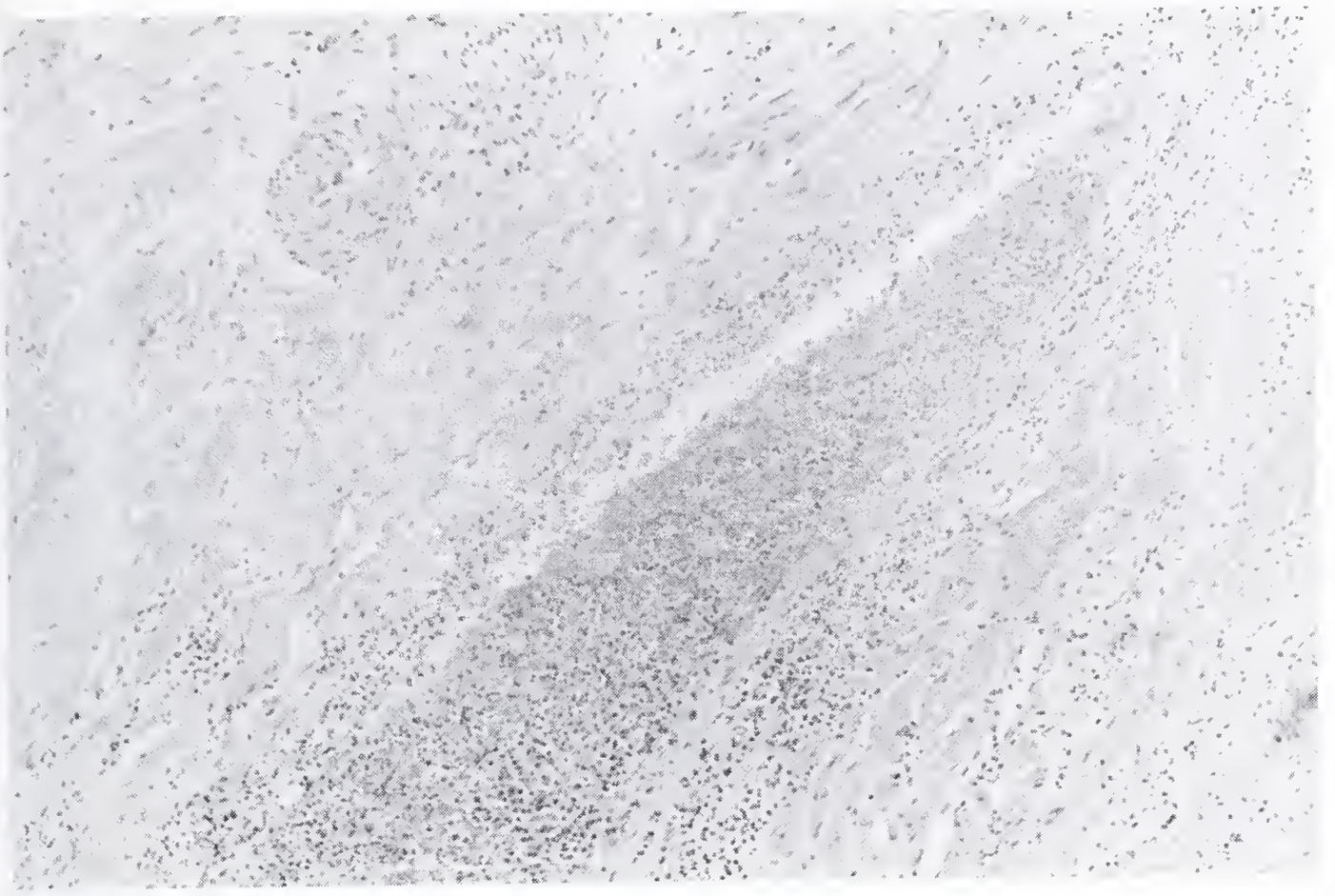


Figure 3.
Photomicrograph of a large venous thrombus in necrotic leiomyoma (H & E, 100X).

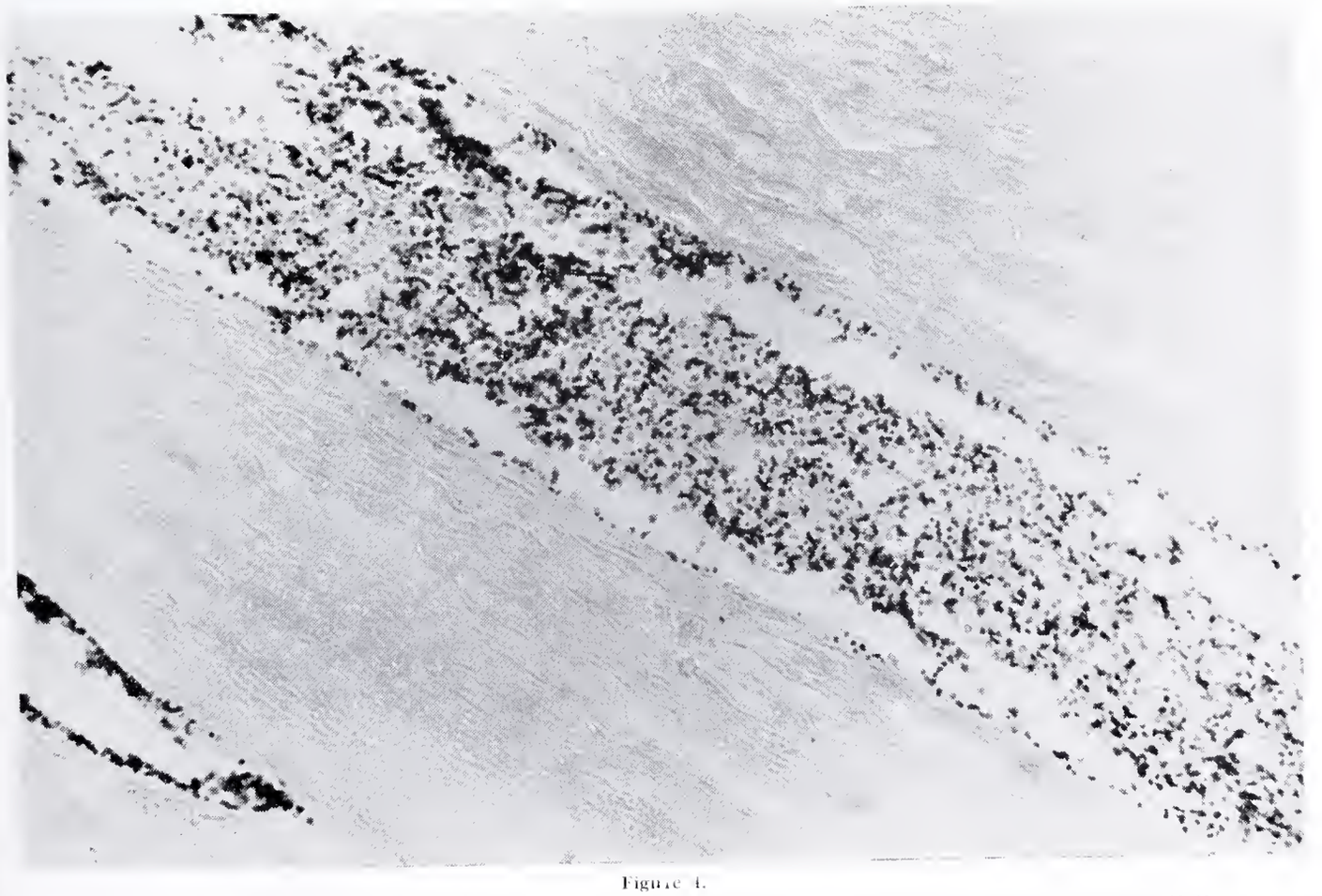


Figure 4.
Thrombus infected with gram-positive cocci (Staphylococcus aureus) in necrotic leiomyoma (Brown and Brenn stain, 400X).

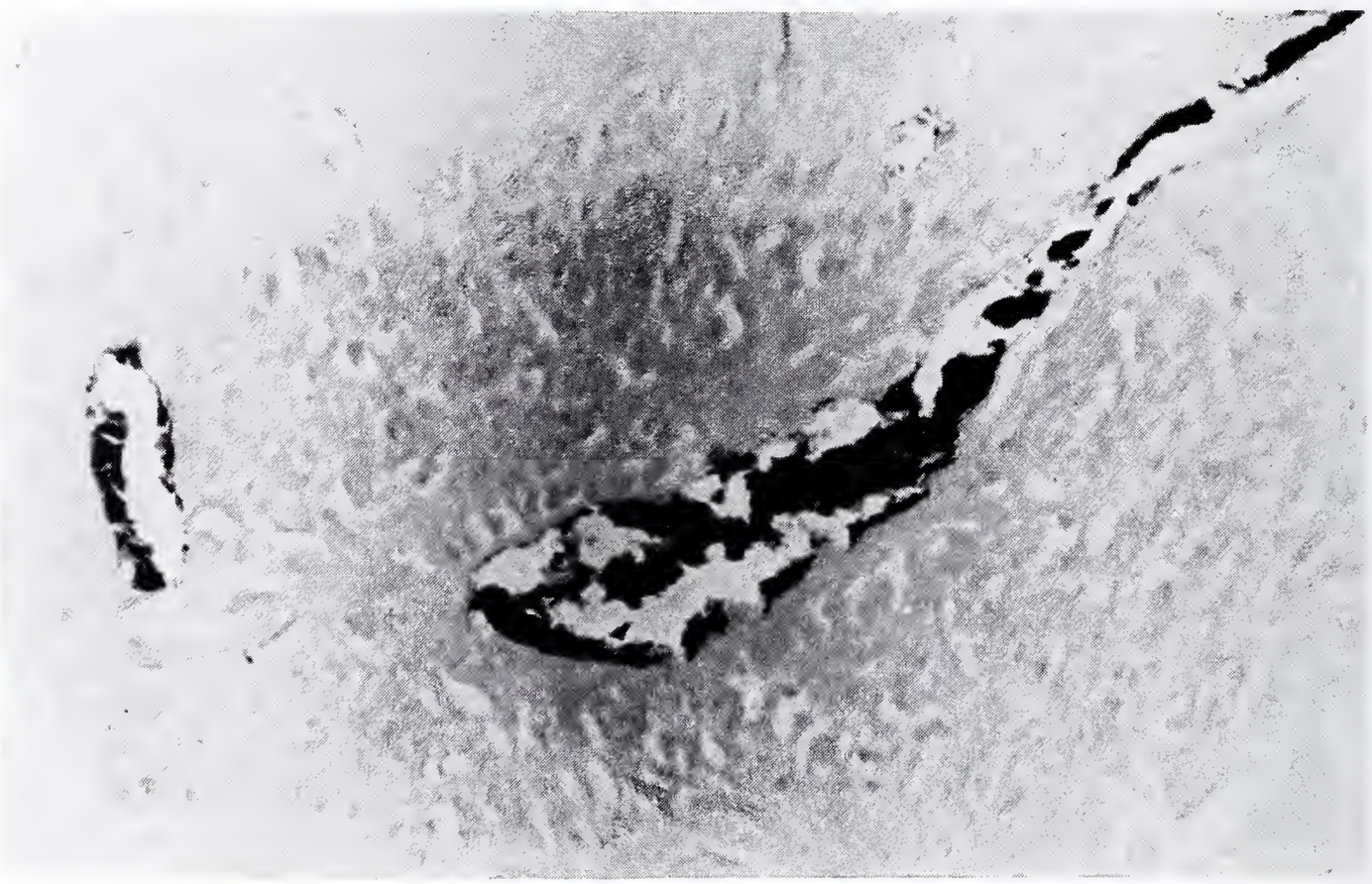


Figure 5.
Necrotic uterine leiomyoma showing massive bacterial colonization of blood vessel (H & E, 200X).



Figure 6.
Photomicrograph of a large gram-positive bacterial colony in necrotic leiomyoma (Brown and Brenn stain, 400X).

clean incision. Pelvic examination revealed diffuse induration of the cuff but no definite masses.

On the 19th day, the temperature again spiked to 105 F. The examination was unchanged. The clinical impression was septic thrombosis of the ovarian veins or small ovarian abscesses. All cultures of Serratia marcescens were sensitive to gentamicin, amikacin, and cefotaxime. Amikacin was stopped and gentamicin was restarted.

On the 20th day, the abdomen was reexplored. Both ovaries were normal, but the right ovarian vein was solidly thrombosed to a diameter of 1.5 cm (Figure 7). The vena cava, left ovarian vein, and iliac veins were normal. The patient underwent bilateral oophorectomy. The right ovarian vein and artery were excised 1 cm from the vena cava, and the left ovarian vein and artery were excised at the pelvic brim. The nafcillin, gentamicin, clindamycin, and cefotaxime were continued and therapeutic heparin was reinstituted 12 hours after the surgery.

On hospital day 23 (third postoperative day), the blood pressure fell to 80/50 mmHg, the hematocrit dropped to 21%, and the abdomen was distended. Clinical impression was intra-abdominal bleeding. The heparin was reversed with protamine, four units of packed red blood cells were administered, and the patient was again explored. The abdominal cavity contained 1500 ml of blood but no active bleeding site was found. Again, the vena cava and pelvic veins were normal. The previous antibiotics were continued.

Postoperatively, the patient had daily fevers in the 101-103 F range, but blood and urine cultures were negative. Despite the fever, the patient continued to improve.

By hospital day 31, all antibiotics were discontinued because of the possibility of drug fever.[9] The patient promptly became afebrile and, on the 33rd hospital day, she was discharged in good condition on estrogen replacement therapy.

Further histologic evaluation of the placenta showed colonies of gram-positive cocci on the maternal side of the membranes (Figures 8, 9), but there was no evidence of inflammation or bacterial colonization of the chorionic villous portion of the placenta or umbilical cord.

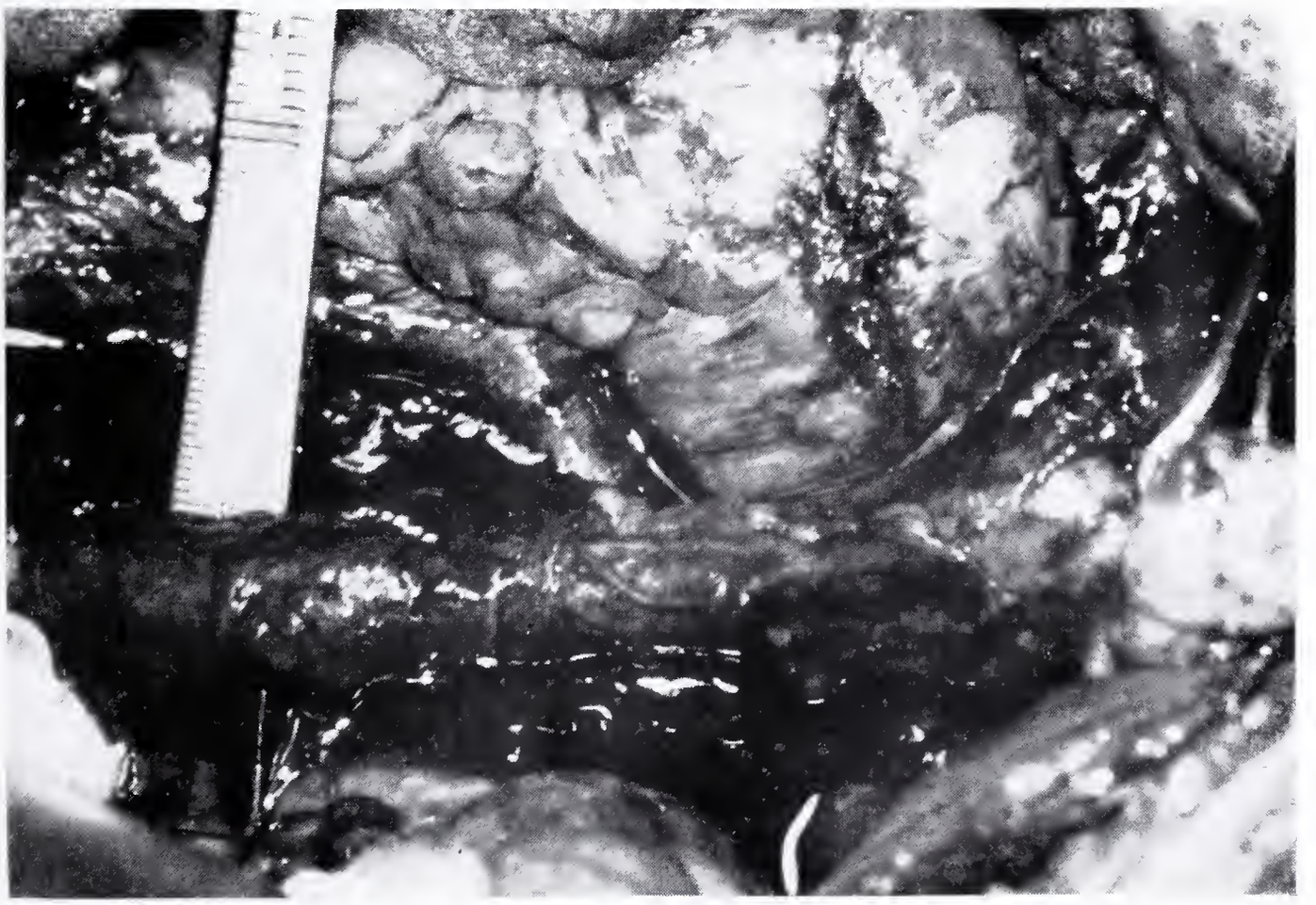


Figure 7.
Thrombosed right ovarian vein and normal right ovary grasped with Babcock clamp.

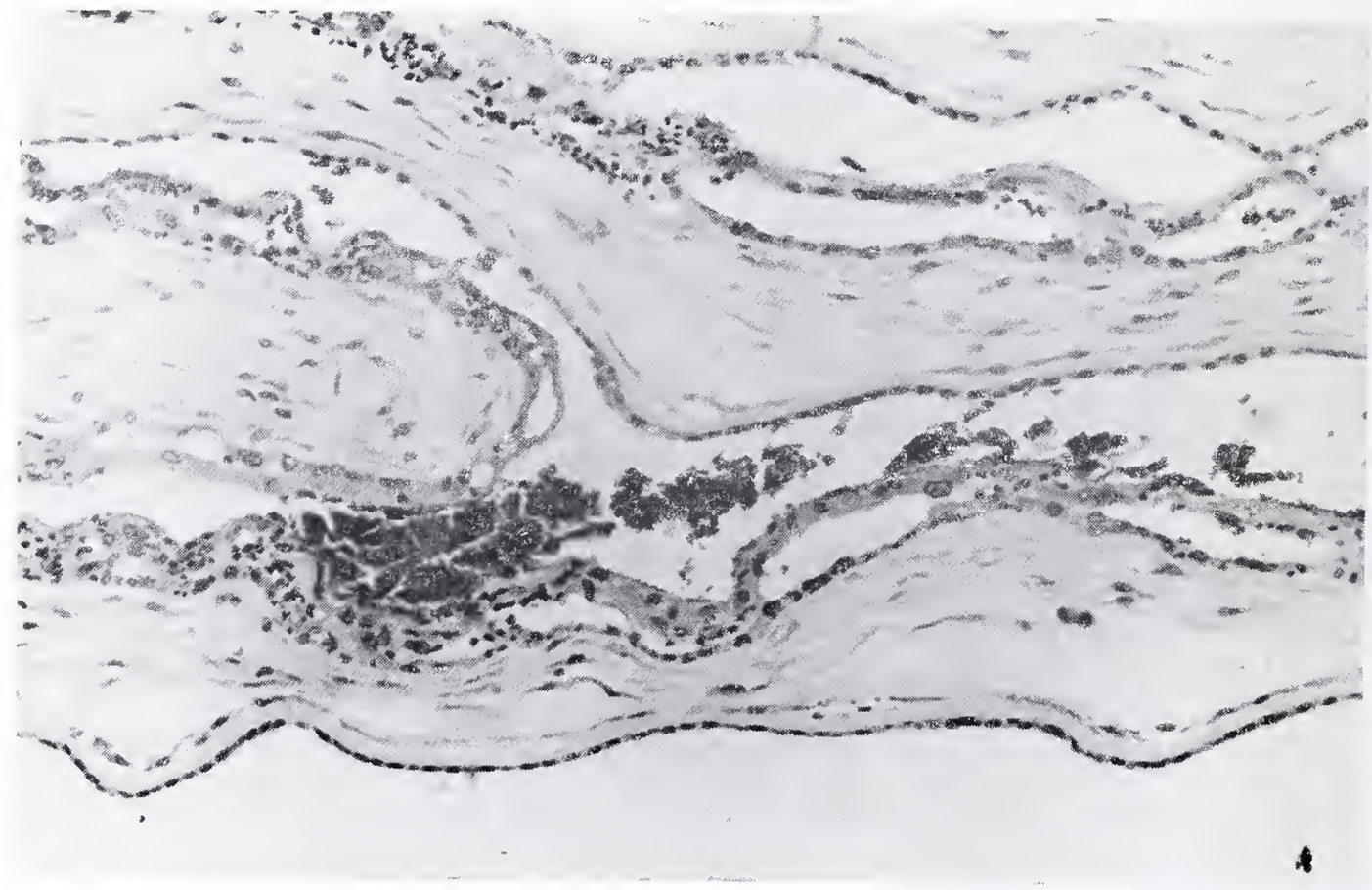


Figure 8.
Photomicrograph of bacterial colonies on maternal side of the placental membranes (H & E, 200X).

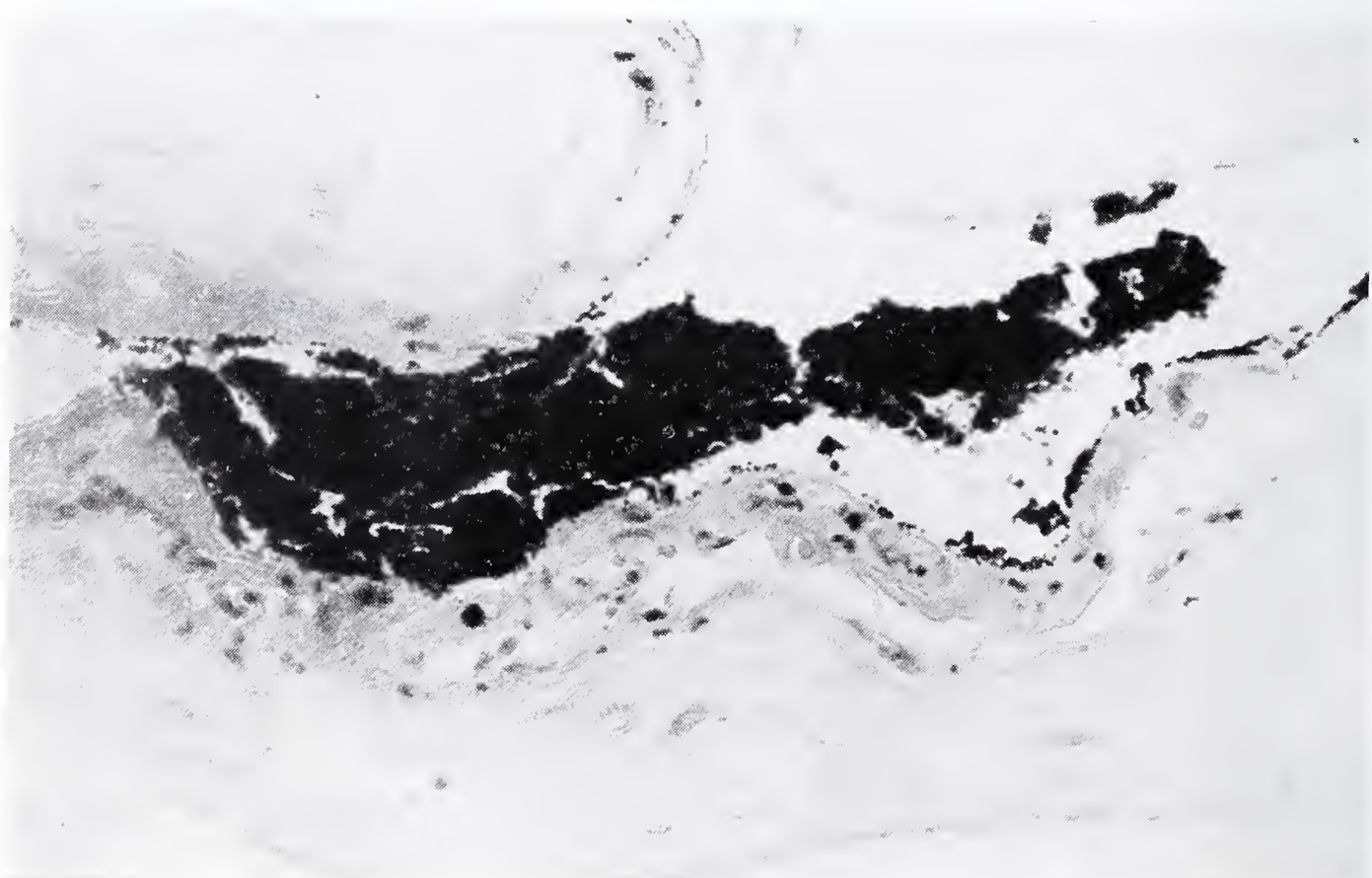


Figure 9.
Colonies of gram-positive cocci (Staphyloccocus aureus) on the chorion (Brown and Brenn stain, 400X).

DISCUSSION

IUD and Pregnancy: It is well known that serious infection resulting in sepsis and even death may occur in pregnant women with an IUD in place.[10–14] According to Foreman et al.,[15] second trimester fetal loss was tenfold greater in women whose IUD was left in place than in women whose IUD was removed during the first trimester. Moreover, Cates et al.[12] found that the risk of maternal death was over 50 times greater for women who continued their pregnancy with an IUD in place than for those who did not. Therefore, for both fetal and maternal indications, an IUD with the string visible should be removed at the first diagnosis of pregnancy.

The mechanism whereby IUDs might cause septic abortion is a matter of speculation.[11] A higher incidence of infection associated with the Dalkon shield has been attributed to its multifilament tail acting as a wick allowing bacteria to gain access to the uterine cavity.[16] Serious pelvic infections can develop with usage of any IUD.[14,17] In our case, it was a Lippes loop that probably contributed to the ascent of the Staphyococcus aureus into the gravid uterus.

The patient was afebrile and asymptomatic until eight hours after the spontaneous abortion. On microscopic review, colonies of cocci were found on the chorion with acute, but mild, inflammatory changes. By the fourth day, the infection was evident and severe endometritis was found in the placental site of the curettage specimen.

In 1976, Biggerstaff et al.[7] reported a case of IUD-associated mid-trimester sepsis with extensive bacterial colonization on the maternal side of the membranes which was noted before clinical sepsis developed. They considered bacterial colonization on the chorion as a possible early histopathologic prognosticator of ensuing sepsis. The presence of bacterial colonies on the placental membranes is unusual and must be considered a potentially important and serious finding.

Bacteriology: Although candida may cause chorioamnionitis in an IUD user,[18] most of the pathologic organisms found in septic abortions associated with an IUD are the same bacteria that comprise the flora of the cervix and vagina. The normal flora may become pathogenic under such abnormal conditions as tissue trauma, retained necrotic tissue, or foreign bodies. In infections associated with IUD's, both aerobic and anaerobic bacteria have been reported. These included gram-negative facultative bacteria, especially Escherichia coli, and anaerobic bacteria, particularly Peptococcus and Bacteroides.[13,19] In Eisinger's series of 18 cases of infected spontaneous second trimester abortions associated with an IUD,[11] Escherichia coli was recovered in eight cases, Bacteroides species in two cases, and Staphylococcus aureus in one case.

In our case, the fact that the patient had been using a vaginal tampon each day for persistent spotting is of speculative interest. The tampons may have contributed to the colonization and subsequent infection by Staphylococcus aureus through a mechanism similar to toxic shock syndrome.

The development of transient Serratia marcescens bacteremia of undetermined etiology during the long hospitalization is not unusual in cases where numerous broad-spectrum antibiotics have been utilized.

Septic Pelvic Thrombophlebitis: Septic or suppurative pelvic thrombophlebitis continues to be a serious disorder and potenitally life-threatening. The intimal lining of the affected pelvic veins is damaged by bacterial invasion,[4] as shown in our case by adherence of gram-positive cocci to the surface of the intima (Figure 10). The clotting process is initiated by the damaged intima, and the ensuing clot is secondarily colonized by the microorganisms.[4]

In 1983, Duff and Gibbs[3] described two clinical forms of pelvic thrombophlebitis. One form is an acute thrombosis of one or both ovarian veins, and the other form is a diffuse thrombosis of multiple small pelvic vessels. Patients with the first type usually have distinct clinical findings such as fever, abdominal pain, and possibly gastrointestinal symptoms. Patients with the second type have recurrent fevers, often as high as 103-104 F, but are otherwise virtually asymptomatic.

In 1974, Josey and Staggers[20] reported an incidence of septic pelvic thrombophlebitis of approximately 1 in 2000 obstetrical deliveries, 1 in 200 febrile abortions, and 1 in 800 major gynecological operations. In 1983, Cohen et al.[4] reported only three cases of septic pelvic thrombophlebitis seen from 1974 through 1981 at Tulane. It is believed that the overall incidence of this problem has declined markedly over the past decade because of the reduced number of illegal abortions in this country.

The treatment of patients with suspected septic pelvic thrombophlebitis has undergone major changes in recent years.[1] In 1970, Collins[5] reported 202 cases of suppurative pelvic thrombophlebitis treated by combined ligation of the vena cava and ovarian veins with an overall mortality of 10%. The mortality of historical controls who did not receive the vein ligations was 52%. In 1966, Lotze et al.[6] reported six cases of ovarian vein thrombophlebitis. Three of these were treated successfully with either ovarian vein ligation or resection but without vena caval ligation. The recent development of transvenous placement, usually via the internal jugular vein, of a vena caval filter device has provided a simple alternative method of interrupting the inferior vena cava.[21,22]

In 1964, Schulman and Zatuchni[23] advocated the use of anticoagulants in cases of suspected pelvic thrombophlebitis. Schulman[24] later recommended administration of heparin for 48 to 72 hours, but advised discontinuation of the drug if fever persisted. Heparin appears to be antipyretic only in septic pelvic thrombophlebitis and is therefore extremely useful not only as a diagnostic, but also as a therapeutic tool for this condition. It has been postulated that heparin inhibits further thrombosis and prevents purulent clot fragments from being released systemically.[4] Bryant and Hammond[25] have demonstrated that heparin may reverse the apparent inhibitory effects of purulent material on antibiotics.

In conclusion, patients with IUDs must be informed of the potential risks associated with an ensuing pregnancy. They should be advised to have any IUD removed as soon as pregnancy is diagnosed. Some IUD-associated infections are potentially life-threatening, and appropriate therapy must be instituted without delay.

The finding of bacterial colonies in aborted tissues is especially worrisome. This finding may forecast a septic clinical course and subsequent suppurative pelvic thrombophlebitis especially in the presence of necrotic tissue.

We believe that surgical intervention should be reserved for those patients who remain clinical-

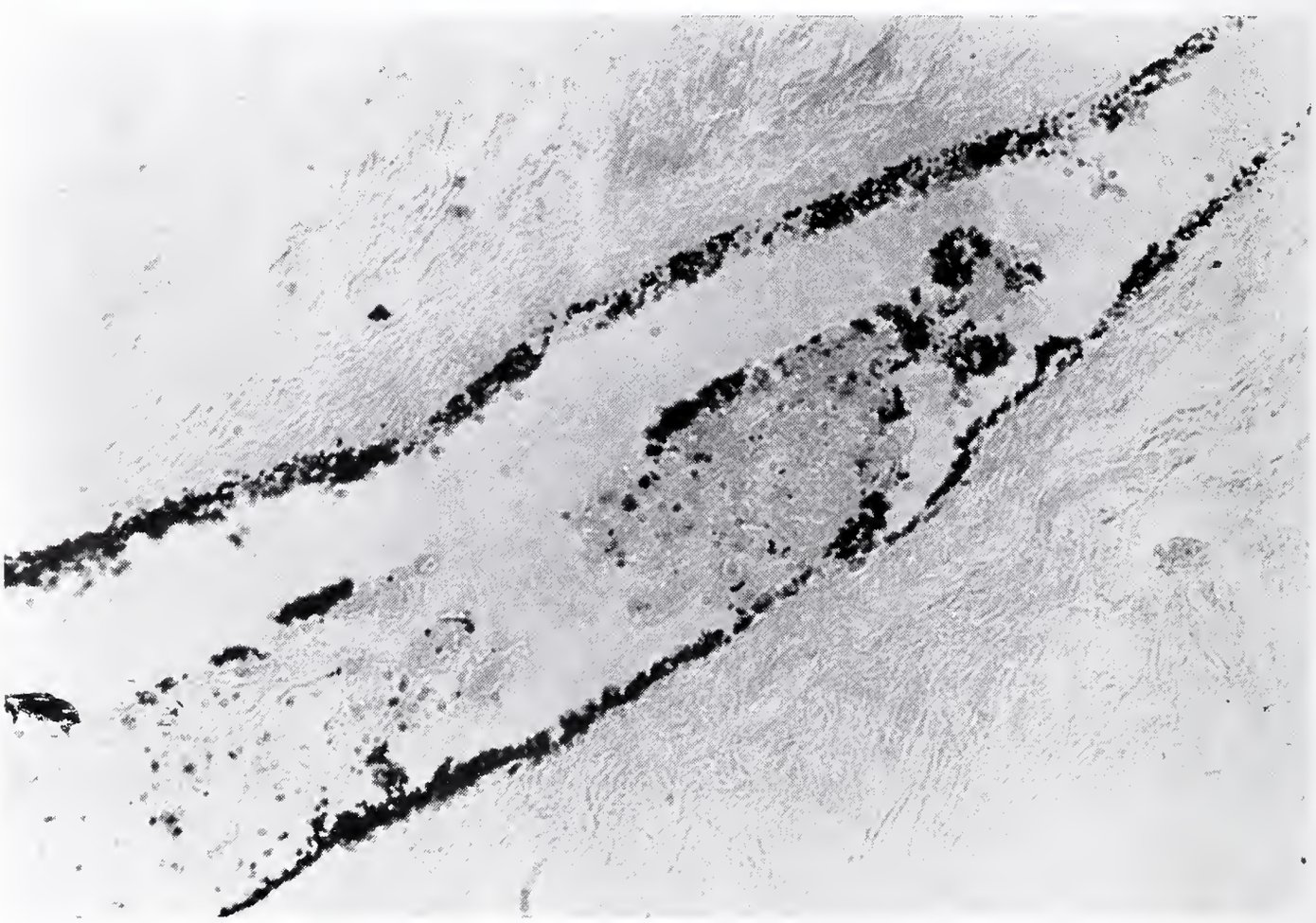


Figure 10.
Adherence of gram-positive cocci to intima of a vein in necrotic leiomyoma (Brown and Brenn stain, 400X).

ly ill despite antimicrobial and anticoagulant therapy for 48 to 72 hours. The main controversy today is what particular procedure should be performed. We feel that the most reasonable approach is simple ligation or excision of the thrombosed ovarian veins. It is not necessary to perform concurrent hysterectomy and bilaterial salpingo-oophorectomy unless there is coexisting disease in these organs. A vena caval filter should be placed for those cases in which the ovarian vein thrombus appears to extend into the vena cava.

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EDITORIAL

Wegener's Granulomatosis

Alfred Kahn, Jr., M.D.

It is manifestly impossible for the practicing physician to be thoroughly knowledgeable about all of the rarer diseases. It is poor intellectual economy, as well as poor economics, to spend an undue amount of time preparing to treat the rarer disorders in one's practice. On the other hand, awareness of some of these disorders and their implications is very valuable and extremely important in all walks of medicine.

One of the more unusual diseases which is occasionally encountered is Wegener's Granulomatosis. There is an excellent review of this subject published by the National Institute of Health at Bethesda, Maryland in *Annals of Internal Medicine,* (Volume 98, page 76, January 1, 1983). The authors are Fauci, Haynes, Katz, and Wolff. They characterize this disorder as a granulomatous vasculitis which appears throughout the respiratory tract and in the kidneys as glomerulonephritis. They tilt toward hypersensitivity as being the cause of Wegener's Granulomatosis, but they state that this is unproved. To the newer mode of treatment, it is said that Wegener's Granulomatosis was a highly fatal disease with 82% of the patients dying in one year. The combination of cytotoxic drugs and adrenal cortical steroids have improved the survival of patients with this disorder fairly dramatically. The authors' experience with this disease indicates that the mean age of their patient's population was 43.6 years and the males outnumbered the females 1.6 to 1; most of their patients were white.

Fauci, et al., have an interesting chart on the presenting signs and symptoms in Wegener's disease in descending order. They are pulmonary infiltrates, sinusitis, arthralgia, fever, cough, otitis, hemoptysis, inflammatory disease of the eye, weight loss, skin rash, nose bleeds, renal failure, chest discomfort and others. It is of interest that they quote the mean duration from the time of onset of symptoms until the diagnosis of Wegener's Granulomatosis was made; their series was 8.3 months. Since this is a disease that can kill within one year or two, this would superficially seem like a rather long time prior to diagnosis; on the other hand, this disease may start out very incidiously and it is extremely difficult to diagnose at times.

Of the 85 patients reviewed by the authors, 80 had lung disease; 57 patients had an open biopsy of the lung. One important point they bring out is that endobronchial biopsy was an ineffective means of establishing diagnosis of Wegener's Granulomatosis. The pathologic findings in the lungs in their cases consisted of multiple bilateral nodal infiltrates; they are said to cavitate with pleural fluid appeared in about one-fifth of the cases. The pathologic process of Wegener's Granulomatosis resulted in abnormalities in 22 of their 85 patients and they found obstructive symptoms to be the commonest type.

Seventy-two percent of their patients had renal disease and percutaneous renal biopsy was performed in 58 patients. They state that the histology of the renal disease was a renus spectrum from mild localized glomerulonephritis to diffuse necrotizing glomerulonephritis. They did not find granulomata or arteritis in many of their renal biopsies.

Upper airway disease was present in 80-85 of the authors' patients and consisted of nasal discharge, nasal discomfort, mucosal ulceration, and otitis. One problem in biopsy diagnoses in this area is said to be the fact that the tissue showed

non-specific changes — often only inflammatory disease without granuloma formation or vasculitis. The disease may be very severe in the upper airway, but it is reported to be uncommon for the disease to erode through the skin as it does in other forms of upper airway disease. Secondary infection was commonplace in this series of patients.

Other areas are involved in Wegener's Granulomatosis. The authors report that 67% of the patients had joint disorders varying from arthralgia to true arthritis. They also report eye involvement in 58%, including conjunctivitis, uveitis, optic nerve involvement, vascular disease, and other ocular problems. Approximately one-half of the cases reported had some type of skin or muscle disorder. Fifty percent were also reported to have nervous system disease—at times it consisted of peripheral neuritis; at other times central nervous system disease. It is of interest that Fauci, et al., reported only ten cases in their series with heart involvement.

The authors report that Wegener's Granulomatosis has no specific laboratory data. Some patients are said to have anemia; leukopenia is seen in some cases; apparently leukocytosis is not very common. The sedimentation rate tends to be elevated before therapy. Some of the more uncommon tests which the authors report are positive Rheumatoid tests in about one-half of the patients; over one-third had elevated immunoglobulin fractions, A and M, but not E.

The authors' treatment consisted of Cyclophosphamide 2 mg./kg body weight d orally, per day, and Prednisone 1 mg./kg body weight d orally, per day. The length of the course of treatment was variable. They mention the treatment as going on for more than one year after remission with regard to Cyclophosphamide. Neutropenia seemed to be the main disorder with these drugs. With Cyclophosphamide, the authors tried to get a complete remission using these drugs. In a table accompanying the article they state that 93% of their treated cases had a complete remission. Seven percent were treatment failures. The mean duration of their remission was roughly four years. The authors have reported some experience with Azathioprine. It was their feeling that this was not as effective for Wegener's Granulomatosis as Cyclophosphamide; they suggested that it might be used to maintain a remission after it had been induced with Cyclophosphamide.

The authors have outlined the complications of therapy with Cyclophosphamide; hair loss, bacterial infections, leukopenia, gonadal dysfunction and cystitis. Other disorders seem to be less common. They do not report many complications with Prednisone.

All in all, this is a very instructive, interesting article concerning an uncommon disease.



"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

William Claire Green, M.D.

Fred O. Henker, M.D.

Born August 23, 1868, fourth of seven children of Claire County Michigan farm family. In 1876, when William was eight, they moved to Saline County, Kansas. However, he returned to his native state and graduated in nursing from Battle Creek Sanatarium. Coming to Little Rock in 1890 heavily in debt, he worked diligently and on December 12, 1900, established a general hospital at Thirteenth and Marshall streets, Little Rock Sanatarium. This hospital was incorporated in 1907. He married Etta Throckmorton April 25, 1893. Continuing his hospital administration, he entered University of Arkansas Medical School, graduating in 1905. Thereafter, he established an outstanding reputation as a physician and surgeon, always maintaining a warm interest in emotional disorders. He became an enthusiastic member of the Seventh Day Adventist Church, contributing both his management skill and his musical ability. He was choir director and organized a small orchestra. Side interests arose from his love of the out-of-doors. He liked camping, maintained a high speed motor boat and owned a farm where he was quite adapt at poultry raising.

In 1923 Little Rock Sanatarium was taken over by the Baptist denomination and replaced by Central Baptist Hospital. Dr. Green built a small hospital behind his home at 1410 Commerce Street which he called Battle Creek Sanatarium. This was for a number of years the only facility for private psychiatric care and several of the early psychiatrists kept patients there.

A large man, troubled with hypertension, Dr. Green died at his home June 17, 1941 and was buried in Oakland Cemetery. Among honorary pallbearers were Little Rock physicians Dr. N. F. Weny, Dr. Harry J. Hayes and Dr. Pat Murphy.



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MEDICINE IN THE NEWS



UAMS HONORS FIVE SURGERY RESIDENTS

Five Surgery residents at the University of Arkansas for Medical Sciences received honors at the Second Annual Surgery Residents Day which was held at the medical center. Dr. Ralph Broadwater, Little Rock, received the Robert M. Bransford, M.D. Award and $1,000. The Bransford Award, given to the outstanding chief resident of the year, is sponsored by the Southern Clinic of Texarkana in memory of a partner and surgeon of the clinic.

The Keith Kilcrease Award, sponsored by the Davis and Geck Corporation was given to Dr. Russell Wood, Little Rock, with first place and $750 for his research project entitled "The Effect of Early Feeding on Post-Burn Hypermetabolism". Second place and a cash prize of $500 was shared by Dr. Homer Fleisher, and Dr. Micheal Foster, a third year resident. Dr. Fleisher's project was on the "Adenosine Triphosphate Levels in Human Saphenonus Vein Grafts—A Metabolic Study of Ischemia" and Dr. Foster's research was entitled "Heparin Protamine Interaction in the Pig".

The third Kilcrease Award, and a $250 cash award, went to Dr. John Roark, Batesville, for his study of "Candida Peritonitis".

EXPANDED HEALTH EMERGENCY CHART PUBLISHED

The Council on Family Health (CFH) announced recently the publication of its updated and expanded "Health Emergency Chart". The chart represents the latest information from health experts on what consumers need to know in the event of accidental poisoning, burns, bleeding, broken bones, choking and shock, as well as advice on how to detect possible medicine tampering and where to store medicines.

Frazier Cheston, Council President, said, "Many of the more than 4 million disabling injuries which occur every year could be prevented if individuals inspected their homes for trouble spots on stairways and in bathrooms, kitchens, and utility rooms. By practicing accident prevention, Americans can greatly reduce the chance of tragic mishaps, which all too often involve older persons and the very young."

The CFH's chart has become the most requested health education brochure the Council distributes to the public. Single copies of CFH's "Health Emergency Chart" are available free of charge by writing to Council on Family Health, 420 Lexington Avenue, New York, New York 10017. Additional copies are available at fifty cents each or can be ordered in bulk at reduced rates.

THREE RECEIVE HISTORY OF MEDICINE-UAMS GRANTS

The History of Medicine Associates, an organization created to stimulate interest in the History of Medicine Division of the University of Arkansas for Medical Sciences Library, has awarded three $1,000 research awards. The awards, funded primarily by a gift from the Medical Education Foundation for Arkansas, were granted for research in Arkansas medical history on topics which made use of the UAMS History of Medicine/Archives collection and other research collections.

The first research grant was awarded to Dr. Michael B. Dougan, professor of History at Arkansas State University, who specializes in Southern, Civil War, Legal, State and Local History. Dr. Dougan's research topic is "The Limits of Liability: Medical Malpractice in Arkansas". He will study how medical malpractice came to change its meaning in the state and at what point patients began to pursue doctors in court.

Dr. Sally G. McMillen, assistant professor of History at Middle Tennessee State University, received the second award. She will research "Childbirth and Infant Rearing in Antebellum Arkansas". Dr. McMillen's areas of interest include American, Southern, Family and Medical History and the experiences of antebellum white Arkansas women during pregnancy, childbirth and early infant rearing. The rural nature of Arkansas, a disease environment, and women's relative isolation during this critical period will be reviewed.

Elissa Lane Miller, associate professor of History at Harding University, Searcy, is completing her dissertation for a Ph.D degree in History from Memphis State University. Her research topic is entitled "From Private Duty to Public Health, Arkansas Nurses at Work: 1895-1940". Her research will explore the reasons for the shift from private duty nursing to public health among Arkansas nurses. It will attempt to determine how the change in focus affected the practice and professionalism of nurses as well as how it affected the health care structure.

CHAMPUS TO BEGIN TWO-YEAR HOME HEALTH CARE TEST PROJECT

Beginning July 1, CHAMPUS may share the cost of home health care for active-duty families in the U. S. as part of a two-year test program to see if such care will be less expensive than inpatient hospital care.

Benefits of the test program will include payment for authorized homemakers and home health aides.

The home health care will have to be authorized in advance by CHAMPUS headquarters. Requests for approval of home health care which is already under way will be denied.

Home health care may be approved for active-duty family members, including the dependents of deceased active-duty service members.

Requests for the care will have to demonstrate that all medically necessary services and supplies required by the CHAMPUS-eligible patient can be provided less expensively at home than in a hospital setting. The care will only be cost-shared by CHAMPUS for the time the patient would have stayed in the hospital. The patient must not be covered by other health insurance for services of a homemaker or home health aide. Home health will usually be approved for 30 days at a time.

Persons who have questions about the home health care test project may call the Benefit Authorization Branch at CHAMPUS headquarters, at (303) 361-8526 or (303) 361-8527.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

NEW ANTI-ARRHYTHMICS

Presented by Dr. Sonny Jackson, *August 28, 12:00 noon.* One hour Category I credit. Sparks Regional Medical Center, 4th floor dining room. Sponsored by AHEC-Fort Smith.

AHEC TUMOR CONFERENCE—BREAST CANCER

Presented by Dr. Walter C. Barnes, *September 3, 7:00 a.m. breakfast.* One hour Category I credit. St. Michael Hospital, 315 East Fifth Street, Texarkana. Sponsored by UAMS-AHEC Southwest.

SPECIAL NOON CARDIOLOGY CONFERENCE

Presented by Dr. Peter Stone, *September 5, 12:00 noon.* One hour Category I credit. Sponsored by the Baptist Medical Center.

ASSESSMENT AND TREATMENT OF THE BORDERLINE PATIENT

Presented by Dr. Richard L. Livingston, *September 8, Time to be announced.* Category I credit to be announced. University Conference Center, Little Rock. Fee: $65.00. Sponsored by the UAMS Office of Continuing Education for Physicians.

NUTRITION AND AGING II

Presented by David A. Lipschitz, M.D., Ph.D. and Ronni Chernoff, Ph.D., R.D., *September 10-11, 8:00 a.m.-5:00 p.m. (Sept. 10) and 8:30 a.m.-4:30 p.m. (Sept. 11).* Excelsior Hotel, #3 Statehouse Plaza, Little Rock. 12 hours of Category I credit. Fee: $175.00; VA Employees — $50.00.

Sponsored by the UAMS Office of Continuing Education for Physicians.

RHEUMATOLOGY SEMINAR

Several nationally known speakers will be presenting the program, *September 13, 9:00 a.m.-12:00 noon.* Category I credit for each hour. Sponsored by the Baptist Medical Center.

BACTERIAL PNEUMONIA

Presented by Dr. Michael Gelfand, *September 15, 7:00 p.m.* One hour Category I credit. LJ's Restaurant, Fayetteville. Sponsored by UAMS AHEC-Northwest.

AHEC CHEST CONFERENCE—THE ROLE OF THE RESPIRATORY THERAPIST

Presented by Dr. William Stead, *September 17, 12:30 p.m. luncheon.* One hour Category I credit. St. Michael Hospital, 315 East Fifth Street, Texarkana. Sponsored by UAMS-AHEC Southwest.

TOPICS IN CORNEAL DISEASE

Presented by Richard A. Eiferman, M.D., University of Louisville, Louisville, Kentucky. *September 26 and 27, 8:30 a.m.-12:00 noon.* Six hours Category I credit. Fee: $50.00. Red Apple Inn, Heber Springs. Sponsored by the Arkansas Academy of Ophthalmology.

THIRD ANNUAL PRIMARY CARE UPDATE

Presented by 26 well-known speakers including Dr. Roger Bone, Rush University; Dr. Norman Kaplan, Texas Health Service Center; and Dr. Richard Quintiliani, Hartford, Connecticut. There will be other speakers from Yale, Harvard, and other institutions. *September 25 and 26, 7:50 a.m.-6:00 p.m., September 27, 9:00 a.m.-12:00 noon.* Category I credit available. Sponsored by the Baptist Medical Center.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

EL DORADO — AHEC

Behavioral Sciences Conference, first and fourth Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:00 p.m., Warner Brown Hospital.
Gynecology-Pathology Conference, second Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Pathology Conference, second Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Obstetrics-Gynecology Conference, fourth Thursday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Surgical Conference, first, second, and third Monday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Tumor Clinic, fourth Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.

FAYETTEVILLE — AHEC-NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

ICU Lecture Series, second Friday, 1:30 p.m., VAMC.
Pathology-Mortality Conference, second Thursday, 3:00 p.m., VAMC.
Radiology Conference, third Thursday, 1:00 p.m., VAMC.

FORT SMITH — AHEC

Cardiology Conference, first Wednesday, 12:00 noon, Sparks Library.
Family Practice Conference, last Wednesday, 12:00 noon, Sparks Library.
Dermatology Conference, first Thursday in September, 12:00 noon, Sparks Library.
Gastroenterology Conference, first Friday, 12:00 noon, Sparks Library.
Neurology Conference, second Thursday, 12:00 noon, Sparks Library.
Ob/Gyn Conference, third Friday, 12:00 noon, Sparks Library
Pediatric Conference, third Wednesday, 12:00 noon, Sparks Library.
Thoracic/Cardiovascular Conference, third Thursday, 12:00 noon, Sparks Library.

JONESBORO — AHEC-NORTHEAST

AHEC Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.
Chest Conference, fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Interesting Case Conference, second and fifth Tuesday, when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Cafeteria, Methodist Hospital of Jonesboro.

Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL
General Pediatrics Seminar, each Friday, 12:00 noon, Second Floor Classroom.
Genetics Conference, each Wednesday, 1:00 p.m., Annex Conference Room.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Oncology Conference, third Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Pediatric Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pediatric Neuroscience Conference, first Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Pharmacology Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Radiology Conference, second and fourth Monday, 12:00 noon, Second Floor Classroom.
Pediatric Research Conference, third Monday, 12:00 noon, Second Floor Classroom.
Pulmonary Conference, each Monday, 3:00 p.m., Second Floor Classroom.
Problem Case Conference, each Thursday, 12:00 noon, Second Floor Classroom.
Renal-Cardiology Conference, second Tuesday, 12:00 noon, Second Floor Classroom.

LITTLE ROCK — ST. VINCENT INFIRMARY
Cancer Conference, first Wednesday, 12:00 noon to 1:00 p.m., CARTI Auditorium.
Cancer Conference, third and fourth Thursday, 12:00 noon to 1:00 p.m., Room S1174K, Laboratory.
General Medicine Journal Club, first and third Tuesday, 12:00 noon to 1:00 p.m., Medical Affairs Conference Room.
Hematology-Oncology Conference, second Thursday, 12:00 noon to 1:00 p.m., Laboratory Library. A meal is provided.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Classroom 1, Education Wing.
Neuropathology Conference, Cancelled.
Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Classroom 1, Education Wing.
Peripheral Vascular Disease Conference, Cancelled for August
Pulmonary Conference, second and fourth Wednesday, 12:00 noon to 1:00 p.m., Classroom 1, Education Wing.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES
Anesthesia Lecture Series, each Tuesday, 7:00 a.m.; each Wednesday, 4:00 p.m., UAMS Education Building, Room G/106.
Anesthesia Morbidity and Mortality Conference, each Thursday, 4:00 p.m., UAMS Education Building, Room G/106.
Interdisciplinary Gynecologic Cancer Conference, each Friday 12:30 p.m., UAMS Education Building, Room G106A&B.
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.
OB/Gyn Grand Rounds, each Wednesday, 7:30 a.m., UAMS Education Building, Room G/141B.
Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m., UAMS AAC Eye Clinic, Room 3/150. 2 hours credit.
Orthopaedic Fracture Conference, each Tuesday, 7:30 a.m., UAMS Education Building, Room B/135.
Orthopaedic Bibliography Conference, each Tuesday, 8:30 a.m., UAMS Education Building, Room B/135. 1½ hours credit.
Orthopaedic Grand Rounds, each Tuesday, 10:00 a.m., UAMS Education Building, Room B/135.
Psychiatry Grand Rounds, each Friday, 11:00 a.m., UAMS Shorey Auditorium.
St. Vincent Urology Grand Rounds, first Tuesday, 5:30 p.m., St. Vincent Infirmary, Education Building, Room 159.
Urology Grand Rounds/Urologic Topics, two to three times monthly (each), 5:00 p.m., UAMS or VAMC.
Urology Morbidity and Mortality Workshop/Uro-Radiology Workshop, once monthly, 5:00 p.m., UAMS (dates vary).
VA Medical Service Teaching Conference, each Thursday, 8:00 a.m., NLRVA, Building 66, Room 38.
VA Surgery Grand Rounds, each Thursday, 12:45 p.m., LRVA, Room 2D109.
VA Weekly Cancer Conference, (Surgical Service), each Tuesday, 1:00 p.b., LRVA, Room 2D109.

LITTLE ROCK — BAPTIST MEDICAL CENTER
Anesthesiology Conference, third Thursday, 7:00 a.m.-8:00 a.m., Conference Room 1.
Grand Rounds, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room 1.
Pathology Conference, third Tuesday, 3:00 p.m. to 4:00 p.m., Pathology Library, Case Presentations.
Pulmonary Conference, each Tuesday, 12:00 noon, Shuffield Auditorium.
Surgery Conference, Cancelled for July and August. Will resume in September. Each Thursday, 7:30 a.m. to 8:30 a.m., Conference Room 2.

PINE BLUFF — AHEC
Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC
Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.

As organizations accredited for continuing medical education by the Accrediation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

THINGS TO COME

September 5

American Heart Association Annual Meeting and Scientific Sessions. Sponsored by the American Heart Association. University Conference Center, Statehouse Convention Center, Little Rock, Arkansas. Topic for the scientific session will be "Chronic Coronary and Carotid Vascular Disease: Detection-Management-Prevention". Category I credit will be available. For more information, contact the Heart Association office, 909 West Second Street, Little Rock, Arkansas (501) 375-9148.

September 5-6

Cardiology for the Primary Care Physician. Sponsored by the HCA Park View Medical Center. Nashville, Tennessee. 11.75 Category I credit. Fee: $165.00. For more information, contact Ann Booten, (800) 251-8200.

September 7-13

Doppler and 2-D Echocardiography. Sponsored by the Johns Hopkins University, School of Medicine, and the Institute for Medical Studies. Washington, D. C. Up to 40 hours of CME Category I credit available. Fees: Session I—Basic Echocardiography, $295; Session II—Basic Doppler Echo, $295; Session III—Clinical Doppler Echo, $395; Sessions I & II, $595; Sessions II & III, $595; and the Entire Symposium, $795. For more information contact: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Laguna Niguel, California 92677; (714) 495-4499.

September 8-12

Clinical Magnetic Resonance Imaging. Sponsored by the University of California, San Francisco. Hyatt Regency Hotel, San Francisco. 30½ Category I credit for whole program. Fee: $495.00 for physicians; $395.00 for residents, fellows, technologists and nurses with a letter of verification. For registration information, call (415) 476-5808. For program information, call (415) 476-5731.

September 17-19

American Cancer Society National Conference on Gynecologic Cancer — 1986. Atlanta Hilton, Atlanta, Georgia. 16½ hours AMA Category I credit. Registration before September 3, 1986: $200 physicians, $100 other health professionals. Fee after September 3, 1986: $250 physicians; $150 other health professionals. No registration fee for students, interns, residents, and American Cancer Society Fellows or Career Development Awardees. For more information contact: American Cancer Society, National Conference on Gynecologic Cancer—1986, 90 Park Avenue, New York, New York 10016.

September 22-26

Postgraduate Institute for Emergency and Primary Care Physicians, Symposia I, II, and III, and Optional Advanced Emergency Procedures Laboratory. San Diego, California. ER I—September 22-26, 1986; January 12-16, 1987; and May 4-8, 1987. ER II—December 8-12, 1986; March 16-20, 1987; and August 17-21, 1987. ER III—October 27-31, 1986; June 22-26, 1987. For brochure and more information contact: Office of Continuing Medical Education, University of California San Diego School of Medicine, M-017, La Jolla, California 92093; telephone (619) 452-3940.

September 25-27

Myocardial Dysfunction in Ischemic Heart Disease: Medical and Surgical Considerations. Sponsored by the Office of Continuing Medical Education, University of California San Diego

School of Medicine. Hotel Inter-Continental, San Diego, California. Fee: To be announced. 17 CME Category I credit hours. For further information contact: Office of Continuing Medical Education, M-017; University of California San Diego School of Medicine, La Jolla, California 92093; (619) 534-3940 or (619) 452-3940.

October 17

American Cancer Society: Pediatric Oncology Symposium. Sponsored by the University of Kansas Medical Center. Battenfeld Auditorium, University of Kansas Medical Center. AMA Category I, AAFP, CNE, SW and PT credit available. For more information contact: Carole Rosen, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Boulevard, Kansas City, Kansas 66103; (913) 588-4480.

October 17-18

Alternative Delivery Systems: Strategies for Physician Control. Sponsored by the American Society of Internal Medicine (ASIM). Marriott Crystal Gateway Hotel, Washington, D. C. 10½ hours CME Category I credit available. Before August 1, the registration fee will be $300 for ASIM members and $375 for non-members. After August 1, the registration fee will be $350 for ASIM members and $425 for non-members. For more information contact: Teresa Crumpler, ASIM (202) 289-1700.

October 17-19

Current Advances in Pediatrics. Sponsored by the Orange County Pediatric Society/California Chapter 4 and the American Academy of Pediatrics. Disneyland Hotel, Anaheim, California. For further information contact: OCPS/California Chapter 4, AAP, Post Office Box 1297, Orange, California 92668.

October 17-19

Assessment of Arteries and Veins by Duplex Ultrasound. Sponsored by Temple University and the Institute for Medical Studies. New Orleans, Louisiana. Application has been submitted for 18 hours of CME Category I credit. Fee: $395. For more information contact: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Laguna Niguel, California 92677; (714) 495-4499.

October 21-22

Medicine and Religion: Ethics of Sexuality and Reproduction. Sponsored by the University of Kansas Medical Center. Battenfeld Auditorium, University of Kansas Medical Center. AMA Category I, AAFP, SW and CNE credit available. For more information contact: Carole Rosen, University of Kansas Medical Center, Office of Continuing Education, 39th and Rainbow Boulevard, Kansas City, Kansas 66103; (913) 588-4480.

October 23-24

Prevention, Recognition and Treatment of Agrichemical Related Exposure Conference. Co-sponsored by Texas Tech University Health Sciences Center and the National Agricultural Chemicals Association. Hilton Palacio Del Rio, San Antonio, Texas. Nine Category I hours for physicians. 1.1 CEU's for nurses. For further information contact: Betsy S. Buchan, National Agricultural Chemicals Association, 1155 15th Street, N.W., 9th Floor, Washington, D. C. 20005; telephone (202) 296-1585.

October 24-25

Emergency Respiratory Care. Sponsored by the University of Kansas Medical Center. Doubletree Hotel, Overland Park, Kansas. AMA Category I, CME, AART, CRNA, CNE, MICT and PT credit available. For more information contact: Carole Rosen, University of Kansas Medical Center, Office of Continuing Education, 39th and Rainbow Boulevard, Kansas City, Kansas 66103; (913) 588-4480.

October 24-26

1986 Self-Psychology Conference: Clinical Advances in Self-Psychology. Sponsored by the Office of Continuing Medical Education, University of California San Diego School of Medicine. Vacation Village Resort, San Diego, California. Fee: $275, physicians; $175, allied health professionals; $125, full-time non-practicing students. Up to 17 CME Category I credit available. For further information contact: Office of Continuing Medical Education, M-017, University of California San Diego School of Medicine, La Jolla, California 92093; (619) 534-3940 or (619) 452-3940.

October 30-November 1

Noninvasive Vascular Diagnostic Techniques. Sponsored by Temple University and the Institute for Medical Studies. Washington, D. C. Application has been submitted for 18 hours of Category I credit. Fee: $395. For more information con-

tact: Lise Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Laguna Niguel, California 92677; (714) 495-4499.

November 3-7

Diagnostic Radiology Seminars. Sponsored by the University of California, San Francisco. Maui Marriott Resort, Maui, Hawaii. 24 hours Category 1 credit. Fee: $495 for physicians; $395 for residents, fellows, technologists and nurses with a letter of verification. For program information, call Radiology Postgraduate Education, University of California (415) 476-5731; for travel information, call Travel Planners, Inc., San Antonio, TX (512) 341-8131.

November 8-9

Transurethral Ureteroscopy: A Seminar and Workshop. Sponsored by the Office of Continuing Medical Education, University of California San Diego School of Medicine. La Jolla Marriott, San Diego, California. 13 CME Category I Credit hours. Fee: $375. For further information contact: Office of Continuing Medical Education, M-017, University of California San Diego School of Medicine, La Jolla, California 92093; (619) 534-3940 or (619) 452-3940.

December 3-7

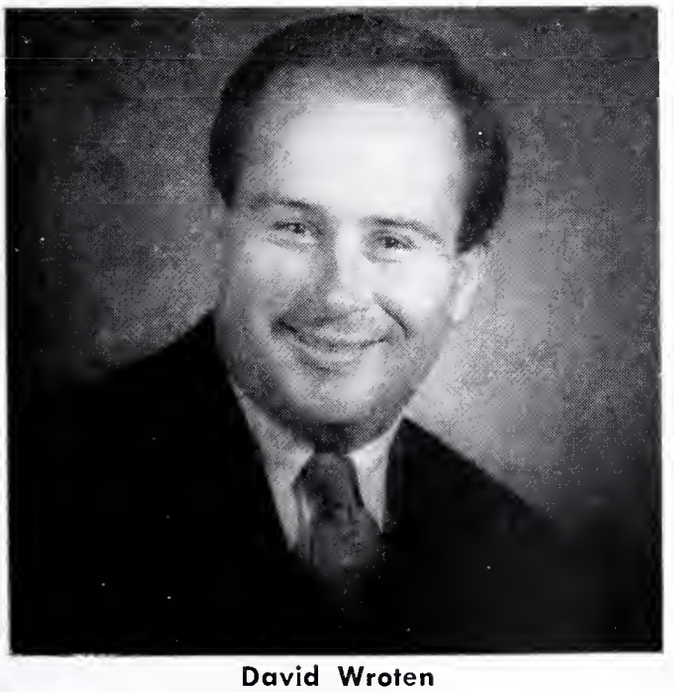
Ear, Nose and Throat Diseases in Children: A 1986 Update. Sponsored by the Department of Otolaryngology and Pediatrics, Children's Hospital of Pittsburgh. The Breakers, Palm Beach, Florida. 17 CME Category I credit hours. Fees: $275 for physicians; $200 for residents. For further information contact: Department of Otolaryngology, Children's Hospital of Pittsburgh, 125 De Soto Street, Pittsburgh, Pennsylvania 15213; (412) 647-6215.

December 14

Antarctic Medical Seminars. The Lecture Room of the ship M. S. Society Explorer. Depart and return to Miami, Florida. Sponsored by International Medical Seminars. Itinerary will be Punta Arenas, Chile, Strait of Magellan, Beagle Channel, Cape Horn, Drake Passage, Antarctic Peninsula, Falkland Islands, and South Georgia. 25 hours CME Category I credit. Additional cruise dates: January 9, 1987 and January 30, 1987. Fee for medical seminar tuition is $400. For additional information contact: International Medical Seminars, 125 Main Street, Westport, Connecticut 06880; telephone (203) 222-0560 or 1-800-551-0019.



PERSONAL AND NEWS ITEMS



David Wroten

WROTEN NAMED ASSISTANT EXECUTIVE VICE PRESIDENT

The Council of the Arkansas Medical Society recently named David Wroten of Little Rock, Assistant Executive Vice President. The Council met June 29 and the promotion was effective immediately. Wroten's areas of responsibility will include publications, membership services, public affairs, professional relations, and various committee assignments.

Wroten joined the Arkansas Medical Society in 1983 after receiving his MBA degree from Arkansas State University in Jonesboro. Previously, he was a Business Consultant/Training Officer for the Small Business Development Center at ASU, and he was the Assistant Manager of the Osceola Finance Company in Osceola, Arkansas.

Wroten, an Osceola native, worked in the So-

ciety's Fort Smith headquarters before transferring to the branch office in Little Rock. The Arkansas Medical Society's offices have been located at #10 Corporate Hill Drive, Little Rock, since May 1.

WHALEY COMPLETES REQUIREMENTS

Dr. W. C. Whaley of Warren has completed continuing education requirements to retain active membership in the American Academy of Family Physicians.

ROBERTS SPEAKS TO LUPUS GROUP

Dr. Randy Roberts, a rheumatologist with the Northeast Arkansas Internal Medicine Clinic, spoke recently to the Northeast Arkansas Lupus Group. The meeting was held in the Mercantile Bank in Jonesboro.

GORDON HONORED BY UAMS

Dr. Vida H. Gordon of Little Rock, the first certified pediatric allergist in Arkansas, recently received an honorary doctor of science degree during the commencement activities at the University of Arkansas for Medical Sciences. Kaneaster Hodges, Chairman of the Board of Trustees, conferred the degree and President Ray Thornton and Dr. Harry Ward, Chancellor, put the hood for Doctor of Science on Dr. Gordon. Dr. Gordon has been a member of the UAMS faculty since 1943, attained professor emeritus status in 1975 and retired from private practice three years ago. Dr. Gordon is a Life Member of the Arkansas Medical Society. She still teaches at the Arkansas Children's Hospital one day a week as a Pediatric Allergy Consultant.

KROE PRESENTS COLORECTAL PROGRAM

Dr. D. J. Kroe, a Jonesboro resident and pathologist at the White River Medical Center, presented a program recently on colorectal cancer screening to the Batesville Kiwanis Club.

COMPTON RECEIVES HONORARY DEGREE

Dr. Neil Compton, a Bentonville native, recently received an honorary doctor of law degree from the University of Arkansas, Fayetteville. The degree is the most prestigious award given by the University of Arkansas, Fayetteville. Compton has become well-known in recent years because of his efforts to protect and preserve natural Arkansas wilderness areas. Dr. Compton practiced medicine in Bentonville from 1949 to 1975. He worked at the Rogers Medical Center until 1978 when he retired. Dr. Compton is an Emeritus member of the Arkansas Medical Society.

DESROCHERS AND BAKER SPEAK

Dr. Paul Desrochers and Dr. Max Baker, both of Fort Smith, recently spoke during a seminar co-sponsored by the Westark Community College and Harbor View Mercy Hospital. The seminar was held at the Booneville hospital and the topic was manic depressive disease.

ATKINSON SPEAKS TO DIABETIC SUPPORT GROUP

Dr. Tom Atkinson of Benton spoke to the first meeting of the Diabetic Support Group recently. The newly created group was formed to assist persons with diabetes in the Siloam Springs area. Dr. Atkinson's program included learning more about the disease, how to care for yourself if you have diabetes and how to cope with changes in diet which occur in persons with diabetes.

ROGERS COMPLETED REQUIREMENTS

Dr. David L. Rogers, a Fayetteville physician, recently completed the mandatory number of continuing education classes to retain active membership in the American Academy of Family Physicians.

AIDS DISCUSSED BY FINCHER

Dr. S. Clark Fincher of Searcy spoke about acquired immune deficiency syndrome (AIDS) recently to the members of the Searcy Rotary Club.

COGBURN NAMED TO BOARD OF TRUSTEES

Dr. Harold Cogburn, a Forrest City physician, was recently named to the Board of Trustees of Harding University. Dr. Cogburn is a member of the St. Francis County Medical Society and the Arkansas Medical Society.

MAGIES DONATE LASER

Dr. J. J. Magie and Dr. Steve Magie, of Conway, recently donated a Coherent 900 Argon Laser for use in the surgical suite of Conway Memorial Hospital. The laser will be used for retinal repair work on an in-patient basis. The Magies are both ophthalmologists in Conway.

MABRY REPRESENTS ARKANSAS

Dr. Charles D. Mabry of Pine Bluff, represented Arkansas at a meeting of the American College of Surgeons in Chicago recently. The meeting served as a forum to discuss and make recommendations to the college's governing board.

BURTON SPEAKS TO CIVITANS

Dr. Bruce Burton of Malvern, spoke recently to the Malvern Civitan Club about the current

crises in the medical field. Burton said the major crises facing the medical profession are the increasing elderly population, accompanied by problems of Alzheimer's and other problems associated with the elderly, abuse in all forms, AIDS, attorneys and the malpractice trend against physicians, and the high cost of organ transplants. These items are creating a tremendous burden on both the patients and physicians involved, according to Dr. Burton.

AMERICAN COLLEGE OF RADIOLOGY ELECTS NEW OFFICERS

The Arkansas Chapter of the American College of Radiology has elected its new officers for 1986-87. The officers are: President—Howard Cockrill, M.D., Little Rock; President-Elect—Marolyn N. Speer, M.D., Stuttgart; Secretary-Treasurer—Clyde Glover, M.D., North Little Rock; ACR-Councillors, Jerry Holton, M.D., Little Rock and John Bell, M.D., Searcy; ACR-Alternate—Doyne Dodd, M.D., Little Rock and Councilors—Aubrey Joseph, M.D., Pine Bluff.

WHITE AND LOYD TO BE ASSOCIATES

Dr. Bruce A. White of the Malvern Family Medical Center, recently announced his new associate will be Dr. Gregory M. Loyd. Dr. Loyd began practicing with Dr. White in July.

OBITUARY

DR. DOYLE H. MORRISON

Dr. Doyle H. Morrison, aged 52, of North Little Rock died May 10, 1986. He was born at El Paso (White County). He graduated from the University of Arkansas, Fayetteville, College of Engineering and received his medical degree from the University of Arkansas College of Medicine in 1972.

Dr. Morrison was a veteran of the Korean War. He was a staff member of Memorial Hospital, a member of the Arkansas Medical Society and the Pulaski County Medical Society. Dr. Morrison was a member of the American Medical Association and a board member of Med-Link of Little Rock.

Survivors in addition to his parents, Mr. and Mrs. Ray Morrison of El Paso, are his widow, LaJuana Storey Morrison; a son, H. Keith Morrison of Little Rock; two daughters, Dana K. Morrison of Cabot and Kimberly Ann Grimes of Little Rock. He is also survived by a brother, Tom V. Morrison of El Paso and two sisters, Geraldine Russell of Ward (Lonoke County) and Opal Odom of North Little Rock.

DR. WARREN HARRISON KIMSEY

Dr. Warren Harrison Kimsey of Austin (Lonoke County), formerly of Chattanooga, Tennessee, died June 4, 1986. He was 66. Dr. Kimsey was the president of the Lonoke County Medical Society as well as a member of the American Medical Association and the Arkansas Medical Society. He was the former head of Neurological Surgery at Walter Reed Hospital in Washington and served as head of Neurological Surgery for Kennedy Veterans Hospital in Memphis. Dr. Kimsey also had served at Valley Forge Hospital at Phoenixville, Pennsylvania and the Field and Evacuation Hospitals in Japan and Korea.

Dr. Kimsey served in World War II and the Korean War in the Medical Corps. He was a Mason, a Shriner, a member of the Scottish Rite, and a member of the Sons of the American Revolution. He also was a member of the Chattanooga and Hamilton County (Tennessee) Medical Societies as well as a member of the Tennessee Medical Society.

Dr. Kimsey is survived by his widow, Joanne Thomison Kimsey; two daughters, Joanne Kimsey Williams of Lonoke and Jennifer Kimsey LeRoux of San Diego, a brother, Alden F. Kimsey of Kalispell, Montana, and a sister, Becky Newbern of Nesbitt, Mississippi.

DR. WILLIAM A. ELLIS, JR.

Dr. William A. Ellis, Jr., of Helena, died June 8, 1986. Dr. Ellis was 79. He was born in Peters-

burg, Tennessee but had lived in Helena since 1935, when he began to practice medicine. He attended the University of Alabama and then attended the University of Tennessee Medical School. He graduated in 1932.

Dr. Ellis was a former deacon in the First Presbyterian Church and had been a member of the Rotary Club for more than 50 years. He was a Life Member of the Arkansas Medical Society and the Phillips County Medical Society. Survivors are his wife, Mrs. Charlotte Ellis of Helena; a son, William "Billy" J. Ellis, also of Helena; and two nephews, George Jarvis Ellis of Florence, Alabama and Frank Fourmy of Memphis, Tennessee.

DR. RICHARD L. DANIEL

Dr. Richard L. Daniel, aged 83, of Hot Springs died June 23, 1986. Dr. Daniel had been a resident of Hot Springs for 40 years. He attended Texas A & M and graduated from Baylor Medical School in 1928. He was a retired Army colonel serving with the Medical Corp during World War II. Dr. Daniel practiced at the Hot Springs Wade Clinic until 1960. He was involved with the Arkansas State Hospital System from 1960 to 1970.

Dr. Daniel was a Life Member of the Arkansas Medical Society, a member of the Garland County Medical Society, the American Medical Association, the American College of Surgeons, the International College of Surgeons and the American Psychiatry Association.

Dr. Daniel is survived by his wife, Emma R. "Betty" Daniel of Hot Springs, one son, Richard L. Daniel, Jr. of Little Rock; one daughter, Elizabeth D. Gray Stanley of Little Rock; one sister, Davis D. Fauber of Fort Worth, Texas; and six grandchildren.

Honorary pallbearers were members of the Garland County Medical Society.

RESOLUTIONS



DR. JOE B. SCRUGGS

WHEREAS, Dr. Joe B. Scruggs, a respected and beloved member of the Arkansas Chapter of the American College of Radiology, passed away on August 8, 1985, and

WHEREAS, he had been a pioneer in radiology in Arkansas, receiving his medical degree and post-graduate radiology residency at the University of Arkansas for Medical Sciences, and

WHEREAS, his selfless devotion to his church and community, professional contributions, encompassing clinical expertise, academic and administrative leadership, and contributions to both metropolitan and community hospital radiology practice, will long be appreciated by his colleagues; be it therefore

RESOLVED that the Arkansas Chapter of the American College of Radiology express its sympathy and sense of loss to Dr. Scruggs' widow and children, and our appreciation for his life and legacy to his friends and colleagues.

September 1986

THE JOURNAL OF THE Arkansas MEDICAL SOCIETY

Vol. 83 No. 4

LITTLE ROCK, ARKANSAS

University of California Library

SPECIAL IN THIS ISSUE

Ave Atque Vale 161
A Job Well-Done 163
Open House and Dedication 181

FEATURES

AIDS in Arkansas 164
Endometriosis: A Review 177

NEW FEATURE

Cancer Management Problems 184



In ten years your malpractice carrier may be just a memory.

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As you consider professional liability insurance, consider this. The coverages stated in the policy are basically a promise — a promise to be here when needed regardless of legal climate or economic conditions. A company's ability to keep this promise is critical because your financial security may depend on it. Unfortunately, too many firms are now finding the task impossible.

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NEWS — Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

Editorial: "Ave Atque Vale" 161
Alfred Kahn, Jr., M.D.

A Job Well-Done 163
David Wroten

SCIENTIFIC ARTICLES

Acquired Immunodeficiency Syndrome in Arkansas 164
Keanne K. Heard, Ph.D., M.D., William G. Bennett, M.D., R. Alan Watson, M.D., and David D. Vesely, M.D., Ph.D.

Obstructive Sleep Apnea: Current Therapy 171
Stephen J. Wetmore, M.D., Lawrence W. Scrima, Ph.D., Nancy L. Snyderman, M.D., and F. Charles Hiller, M.D.

FEATURES

ECG of the Month 174

Orthopedic Trends: "Walking" 175
H. Austin Grimes, M.D.

OB/GYN Update: "Endometriosis: A Review" 177
Stephen E. Torres, M.D., and David L. Olive, M.D.

Cancer Management Problems: "Carcinoma of Lung with Mediastinal Metastasis" 184
Carlos A. Araoz, M.D., Robert C. Landgren, M.D., Ben M. Lincoln, M.D., James E. McDonald, M.D., and S. William Ross, M.D.

Arkansas Medical Society Open House and Dedication 186

From Other Years: Vol. 1, No. 2, July 15, 1904 189

Keeping Up 189

Things to Come 192

Personal and News Items 194

New Members 195

Obituaries 198

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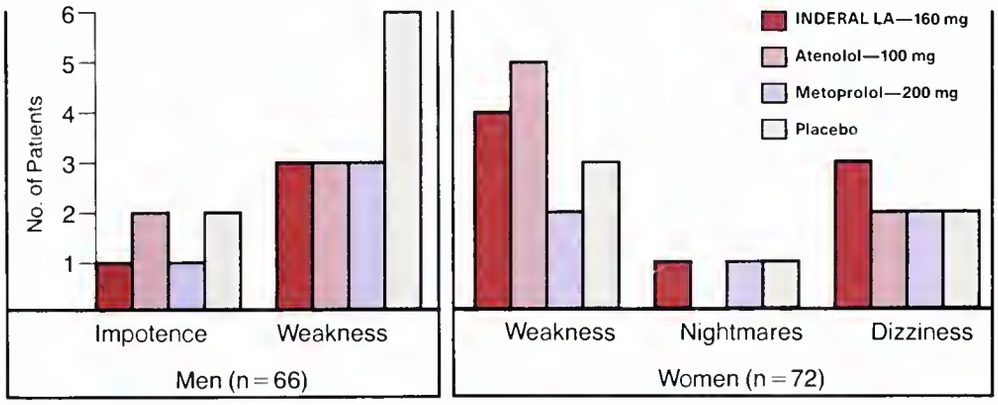
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CONTRAINDICATIONS

Propranolol hydrochloride (INDERAL® LA): Propranolol is contraindicated in: 1) cardiogenic shock; 2) sinus bradycardia and greater than first degree block; 3) bronchial asthma; 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with propranolol.

Hydrochlorothiazide: Hydrochlorothiazide is contraindicated in patients with anuria or hypersensitivity to this or other sulfonamide-derived drugs.

WARNINGS

Propranolol hydrochloride (INDERAL® LA): CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated, and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or propranolol should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction following *abrupt* discontinuance of propranolol therapy. Therefore, when discontinuance of propranolol is planned the dosage should be gradually reduced and the patient carefully monitored. In addition, when propranolol is prescribed for angina pectoris, the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If propranolol therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute propranolol therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case this resulted after an initial dose of 5 mg propranolol.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)— PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD, IN GENERAL, NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution, since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

DIABETES AND HYPOGLYCEMIA: Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin. Hypoglycemic attacks may be accompanied by a precipitous elevation of blood pressure.

Hydrochlorothiazide: Thiazides should be used with caution in severe renal disease. In patients with renal disease, thiazides may precipitate azotemia. In patients with impaired renal function, cumulative effects of the drug may develop.

Thiazides should also be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma.

Thiazides may add to or potentiate the action of other antihypertensive drugs. Potentiation occurs with ganglionic or peripheral adrenergic-blocking drugs.

Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma.

The possibility of exacerbation or activation of systemic lupus erythematosus has been reported.

PRECAUTIONS

Propranolol hydrochloride (INDERAL® LA): GENERAL: Propranolol should be used with caution in patients with impaired hepatic or renal function. Propranolol is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that propranolol may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

CLINICAL LABORATORY TESTS: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs, such as reserpine, should be closely observed if propranolol is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity, which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies, in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

PREGNANCY: Pregnancy Category C. Propranolol has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximal recommended human dose. There are no adequate and well-controlled studies in pregnant women. Propranolol should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

NURSING MOTHERS: Propranolol is excreted in human milk. Caution should be exercised when propranolol is administered to a nursing mother.

PEDIATRIC USE: Safety and effectiveness in children have not been established.

Hydrochlorothiazide: GENERAL: Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals.

All patients receiving thiazide therapy should be observed for clinical signs of fluid or electrolyte imbalance, namely: Hyponatremia, hypochloremic alkalosis, and hypokalemia. Serum and urine electrolyte determinations are particularly important when the patient is vomiting excessively or receiving parenteral fluids. Medication such as digitalis may also influence serum electrolytes. Warning signs irrespective of cause are: Dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances such as nausea and vomiting.

Hypokalemia may develop, especially with brisk diuresis, when severe cirrhosis is present, or during concomitant use of corticosteroids or ACTH.

Interference with adequate oral electrolyte intake will also contribute to hypokalemia. Hypokalemia can sensitize or exaggerate the response of the heart to the toxic effect of digitalis (eg, increased ventricular irritability). Hypokalemia may be avoided or treated by use of potassium supplements, such as foods with a high potassium content.

Any chloride deficit is generally mild and usually does not require specific treatment except under extraordinary circumstances (as in liver or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather; appropriate therapy is water restriction, rather than administration of salt, except in rare instances when the hyponatremia is life-threatening. In actual salt depletion, appropriate replacement is the therapy of choice.

Hyperuricemia may occur or frank gout may be precipitated in certain patients receiving thiazide therapy.

Insulin requirements in diabetic patients may be increased, decreased, or unchanged. Diabetes mellitus which has been latent may become manifest during thiazide administration.

If progressive renal impairment becomes evident, consider withholding or discontinuing diuretic therapy.

Thiazides may decrease serum PBI levels without signs of thyroid disturbance.

Calcium excretion is decreased by thiazides. Pathologic changes in the parathyroid gland with hypercalcemia and hypophosphatemia have been observed in a few patients on prolonged thiazide therapy. The common complications of hyperparathyroidism, such as renal lithiasis, bone resorption, and peptic ulceration, have not been seen. Thiazides should be discontinued before carrying out tests for parathyroid function.

DRUG INTERACTIONS: Thiazide drugs may increase the responsiveness to tubocurarine.

The antihypertensive effects of thiazides may be enhanced in the postsympathectomy patient. Thiazides may decrease arterial responsiveness to norepinephrine. This diminution is not sufficient to preclude effectiveness of the pressor agent for therapeutic use.

PREGNANCY: Pregnancy Category C. Thiazides cross the placental barrier and appear in cord blood. The use of thiazides in pregnancy requires that the anticipated benefit be weighed against possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult.

NURSING MOTHERS: Thiazides appear in human milk. If use of the drug is deemed essential, the patient should stop nursing.

PEDIATRIC USE: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Propranolol hydrochloride (INDERAL® LA): Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: Bradycardia, congestive heart failure; intensification of AV block; hypotension, paresthesia of hands; thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type.

Central Nervous System: Lightheadedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia; visual disturbances; hallucinations; an acute reversible syndrome characterized by disorientation for time and place; short-term memory loss; emotional lability; slightly clouded sensorium; and decreased performance on neuropsychometrics.

Gastrointestinal: Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation; mesenteric arterial thrombosis, ischemic colitis.

Allergic: Pharyngitis and agranulocytosis; erythematous rash; fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: Bronchospasm.

Hematologic: Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: Alopecia, LE-like reactions; psoriasiform rashes, dry eyes; male impotence; and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes, and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

Hydrochlorothiazide:

Gastrointestinal: Anorexia, gastric irritation, nausea, vomiting, cramping, diarrhea, constipation; jaundice (intrahepatic cholestatic jaundice); pancreatitis; sialadenitis.

Central Nervous System: Dizziness, vertigo; paresthesias; headache; xanthopsia.

Hematologic: Leukopenia, agranulocytosis; thrombocytopenia; aplastic anemia.

Cardiovascular: Orthostatic hypotension (may be aggravated by alcohol, barbiturates, or narcotics).

Hypersensitivity: Purpura, photosensitivity, rash; urticaria, necrotizing angiitis (vasculitis, cutaneous vasculitis), fever, respiratory distress, including pneumonitis; anaphylactic reactions.

Other: Hyperglycemia; glycosuria, hyperuricemia, muscle spasm; weakness, restlessness; transient blurred vision.

Whenever adverse reactions are moderate or severe, thiazide dosage should be reduced or therapy withdrawn.

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REFERENCE:

1. Ravid M, Lang R, Jutrin I. The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily. *Arch Intern Med* 1985;145:1321–1323.

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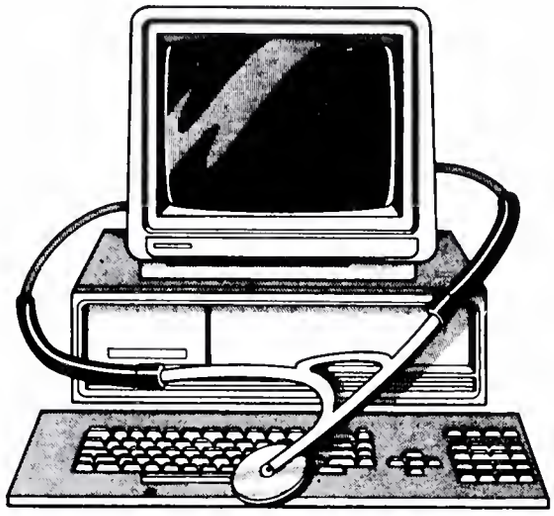
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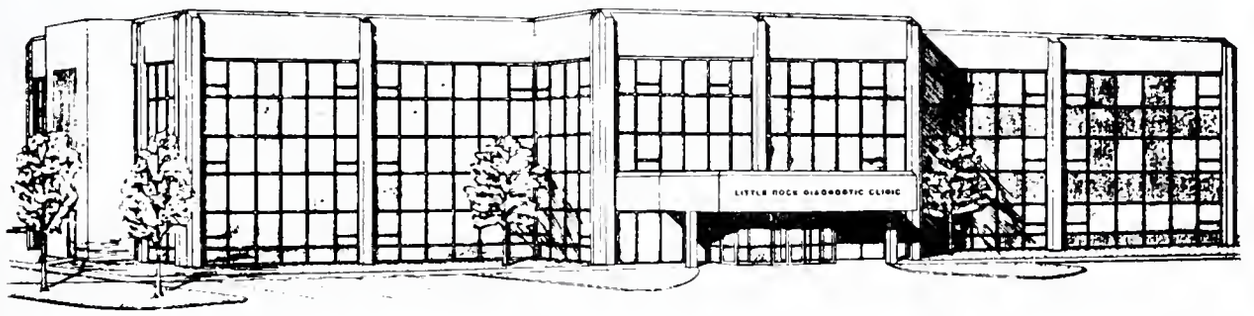
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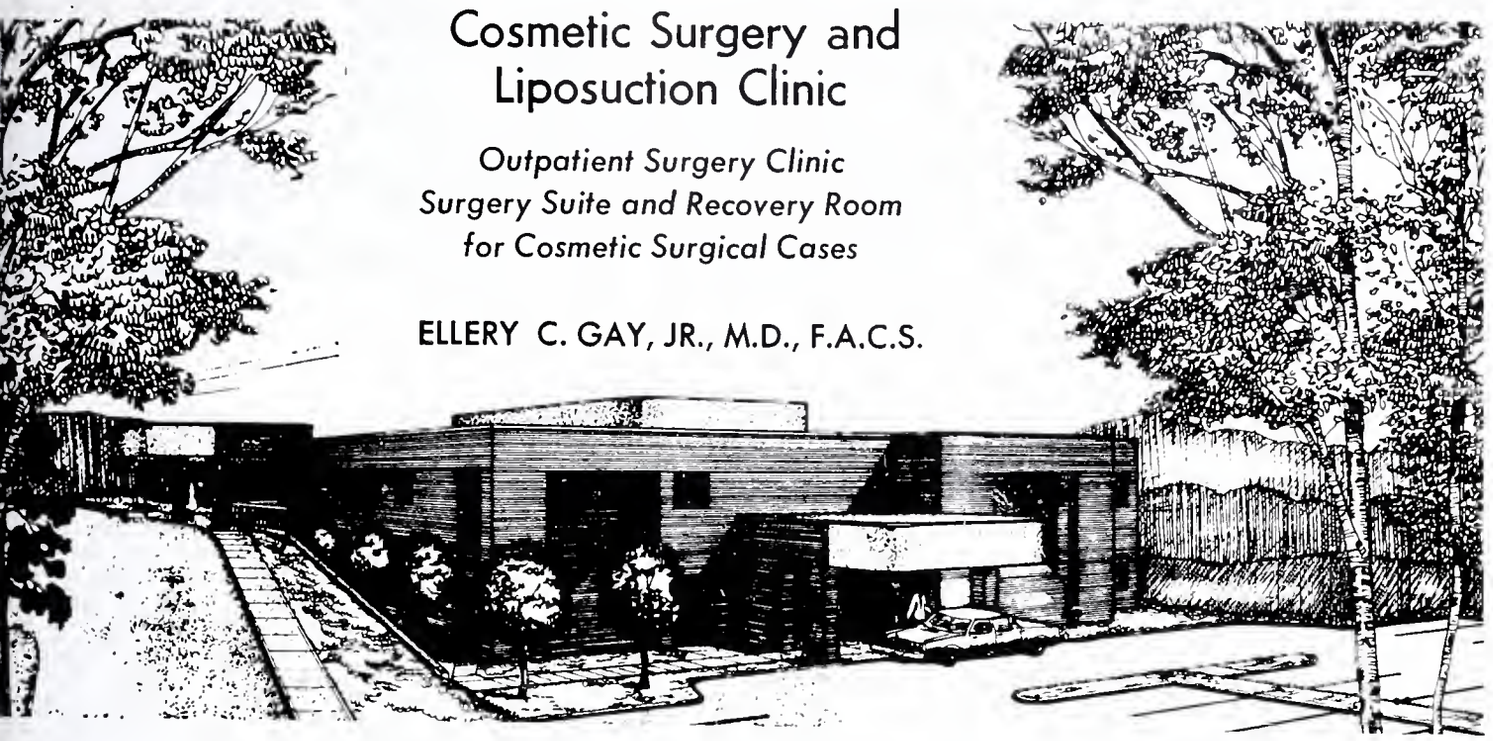
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EDITORIAL

Ave Atque Vale

Alfred Kahn, Jr., M.D.

Hail and Farewell! Thirty years ago, your current editor took office and now he is retiring. In 1956, the titans of Arkansas medicine had just concluded a vigorous fight to stop a rather persistent drive to socialize medicine in the United States, and the State Medical Society reached a plateau of eminence under the leadership of such physicians as Fount Richardson, Bill Brooksher, Jim Kolb, Henry Hollenberg, Bob Watson, Earl Hunt, L. H. McDaniel, and many other strong personalities who left their imprint on the Arkansas Medical Society.

This editorship has seen a vast quantum leap in medical scientific knowledge, most of which has been reflected directly and indirectly as review articles or confirmation articles aimed for the most part at the primary physician—especially those in the smaller communities of this state—who made up the backbone of Arkansas medicine. As more specialists have appeared, more scientific articles of limited interest have been published. But for the most part, The *Journal of the Arkansas Medical Society* is a journal dedicated to the interests of the family physician and the primary physician. To cater to the broadening interest of Arkansas physicians, more and more feature articles have been introduced — some regularly and some random to give a good admixture of usable scientific information. The main thrust of the articles in the *JAMS* has been to publish information that directly relates to patients rather than basic research or research directed away from patient care.

During the period of this editorship, the mode and delivery of medicine as a profession has changed dramatically—from a highly individualistic, personally-styled, solo, quiet relationship with the treated public to an almost merchandised, well-orchestrated, patterned, group delivery of medical care. The causes for this revolutionary change are manifold but basically the change was the result of economic factors including the rapid spread of medical insurance, the public's perceived image of "the prosperous physician", general inflation, and the rising cost of medical care due to marvelously intricate machinery and highly-trained physicians who are capable of operating these new devices.

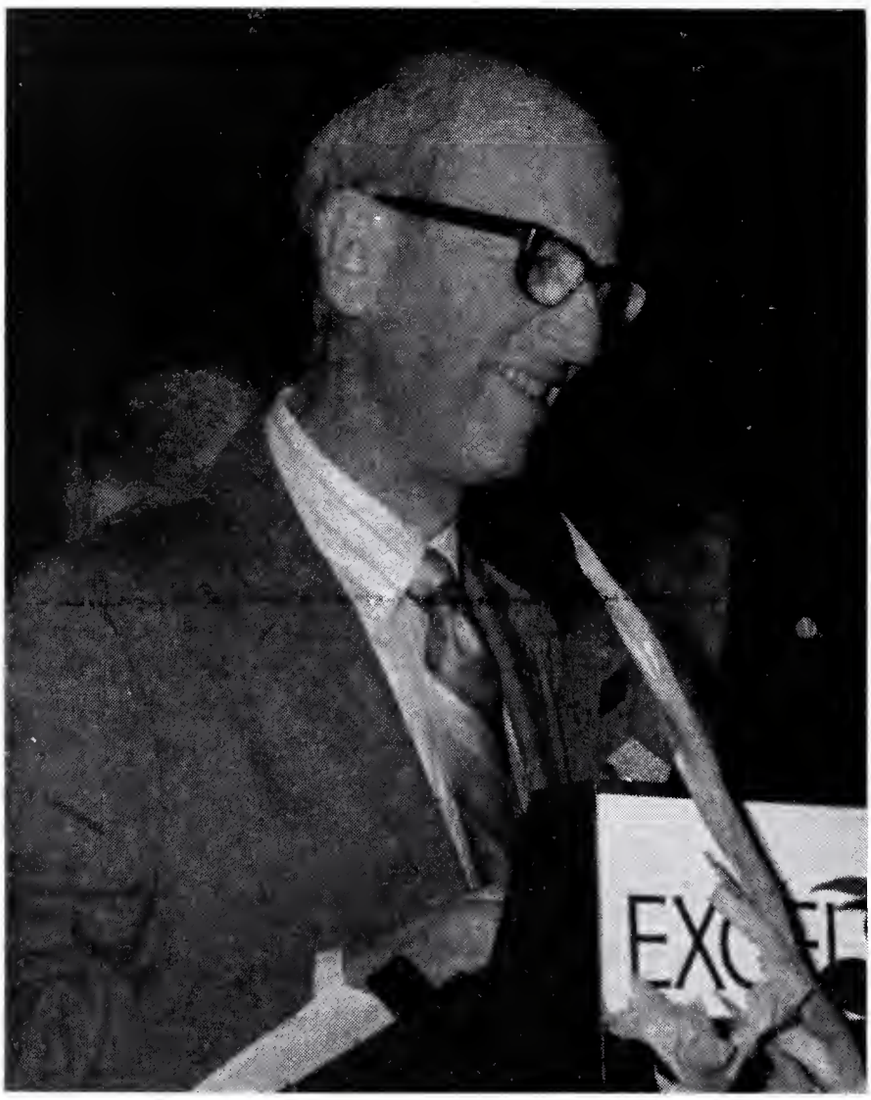
Arkansas medicine has reached a high level of excellence, much of it due to the University of Arkansas School of Medicine which has contributed much to the education of Arkansas physicians as an educational institution but also as a disseminator of scientific information — as the articles from this institution in the *JAMS* bear witness.

Much of the success of this journal is the result of the continuous excellent contribution of the physician and non-physician staff at the headquarters of the Arkansas Medical Society. They deserve high praise.

Any vision for the future for Arkansas medicine appears bright and successful. There is a fine core of widespread primary physicians and excellent centers for specialty care. There is only one faint cloud on the horizon and that is the damage that could be done by too much attention to merchandising medicine as is unwisely recommended by some medical leaders at the expense of careful, thoughtful individualized care of the patient. The tenets of medical ethics have been derived from experience and their values still obtain as a pattern of practice for physicians who wish to provide the finest care for the citizens of Arkansas.

This editorship has been a privilege and inspirational, challenging, pleasant task.

Ave Atque Vale!



DR. ALFRED KAHN, JR., M.D.
Editor
Journal of the Arkansas Medical Society
1956-1986

A Job Well-done

David Wroten
Assistant Executive Vice President

April 25, 1956. That date may not mean much to many of you, but I think it means something to our departing editor. On that date, Dr. Alfred Kahn, Jr., was elected editor of *The Journal of the Arkansas Medical Society*. I doubt Dr. Kahn realized at the time that the position would be his for *thirty years* and that 360 editorials would be published under his name before he would reluctantly be allowed to retire.

His first editorial was written in April, 1956 as a guest editor. The title was "Endocrinopathy Associated with Malignant Carcinoid." By June, 1956, he had replaced Dr. Fount Richardson as editor. Dr. Richardson had other pressing engagements — he had been elected President of the Society that year. Since that time, Dr. Kahn has written about many subjects, from arthritis to AIDS, heart disease to hormones. He has written about medical leadership in organized medicine, socialized medicine and HMO's. It couldn't have been an easy task to write those editorials month after month.

But the editorship is more than writing editorials. Dr. Kahn made countless telephone calls and wrote countless letters to physicians requesting scientific articles. He made editorial judgments about content. He often clarified questions about procedures or symptoms or terminology. There is no adequate way to express our gratitude to him for faithfully performing a sometimes thankless job.

Dr. Kahn's devotion to serving the educational needs of Arkansas physicians can only be described as a labor or love — for the medical profession and the patient. This can be seen in every issue of the Journal published under Dr. Kahn's direction.

Our challenge will be to maintain the excellent standards established by Dr. Kahn and to work closely with the new editor to insure that *The Journal of the Arkansas Medical Society* will be a publication the physicians of Arkansas can always be proud of.

We offer our departing editor our best wishes in his retirement and our heartfelt thanks for a long, hard job well-done.

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Acquired Immunodeficiency Syndrome in Arkansas

Jeanne K. Heard, Ph.D., M.D.,* William G. Bennett, M.D.,* R. Alan Watson, M.D.,* and David L. Vesely, M.D., Ph.D.**

INTRODUCTION

Acquired immunodeficiency syndrome (AIDS) was first recognized and reported as a distinct syndrome by the Center for Disease Control in 1981.[1] From June 1981 to January 1986, over 16,000 persons in the United States have been reported as having AIDS.[2] It has been estimated that 40,000 persons will develop the syndrome during 1986 and 1987.[3] In Arkansas, the first AIDS case was reported in 1983.[4] This was the only case reported in 1983 and there were only two more reported cases in 1984.[4] In 1985, the number of cases of AIDS in Arkansas increased markedly, with 15 cases reported.[4]

The majority (75% or more) of persons with AIDS are homosexual or bisexual men.[5] Others affected with the syndrome include intravenous drug users, native-born Haitians, heterosexual contacts of bisexual men, and infants born to mothers with AIDS.[6] Transfusion of whole blood and blood components also has been implicated in transmission of AIDS, especially in hemophiliacs and other recipients of multiple blood transfusions. A recent patient with AIDS who had multiple *Toxoplasmosis gondii* brain abscesses illustrates the salient features in making the diagnosis of AIDS which appears to be increasing in incidence in Arkansas. In the overwhelming majority of patients with AIDS, opportunistic organisms that take advantage of defective cell mediated immunity are the major cause of death. The various opportunistic infections that have a higher incidence in AIDS patients than the general population and their treatment are discussed.

Case Report

A 38-year-old black man with a history of intravenous heroin and cocaine abuse that started in 1968 in Vietnam was transferred from a New York hospital to the John L. McClellan Veterans Hospital for treatment at a site near his family. He had a tentative diagnosis of acquired immunodeficiency syndrome and multiple toxoplasma brain abscesses. The patient presented in New York with a history of a one and a half week headache unrelieved by Tylenol that was accompanied by fever, chills and diarrhea for the last three days before admittance. He had lost 30 pounds in the six months prior to first being seen. He denied homosexual contacts, sickle cell disease or any recent hepatitis. There was no exposure to cats or other animals. There was a past history of oral candidiasis.

Physical exam revealed a cachetic-looking man weighing 118 lbs. on a 6'1" frame. Blood pressure was 100/70 mmHg with orthostatic change; pulse was 104 beats/minute and regular, and respirations were 16/minute and nonlabored. His temperature was 104° F. Fundoscopic exam revealed cotton-wool exudates and blot hemorrhages but no papilledema. There were raised white plaques on a pale buccal mucosa. Neck examination revealed a supple neck with no lymphadenopathy but there were bilateral 1 to 2 cm axillary lymph nodes that were non-tender, freely movable and "spongy" in character. Similar 0.5 to 1 cm nodes were found in the inguinal area. He had multiple black discolorations of his veins of the upper extremities consistent with intravenous drug use. The rest of the physical exam was essentially within normal limits, including the neurological exam where cranial nerves II to XII were intact and the motor and sensory examinations were normal.

Laboratory evaluation revealed a hematocrit of 29% (normal 42-50%), with a hemaglobin of 10.7 g/dl (normal 12-16 g/dl), white blood count of 3,400/μl (normal 5,000-10,300 μl) and a reticu-

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locyte count of 0.2% (normal 0.5-1.5% of RBCs). Platelets were 141,000/μl (normal 200,000-350,000/μl). Serum electrolytes were normal with a blood urea nitrogen of 36 mg/dl (normal 10-26 mg/dl) and a serum creatinine of 1.8 mg/l (normal 0.7-1.5 mg/l). Liver functons were normal as was hepatitis B antigen (negative result), but there was a positive hepatitis B core antigen, suggesting recovery from a hepatitis B infection with immunity developing. Also present was a positive convalescent phase IgG hepatitis A antibody with negative acute phase A antibody. This IgG antibody usually develops 4 to 8 weeks after the onset of acute hepatitis A infection and persists during the life of the patient, and its presence implies that the patient is immune to reinfection with hepatitis A virus.

In addition to evidence of the previous hepatitis virus infections, there was an elevated titer of 1:1,280 of IgG antibody to Epstein-Barr virus by indirect immunofluorescence (normal $<$1:80), with a normal acute phase IgM titer of 1:10 suggesting a previous infection with Epstein-Barr virus. With respect to the patient's diagnosis of acquired immunodeficiency syndrome, he was seropositive for human T-cell lymphotropic virus (HTLV)-III. The patient also had decreased T-helper lymphocytes (T_4) and increased T-suppressor (T_8) lymphocytes resulting in a T-helper:suppressor ratio of less than $<$0.8 that has been associated with AIDS. A western blot test confirmed the diagnosis of AIDS in this patient.

Computed tomography of the head revealed a ring enhancing lesion with surrounding edema in the vermis of the cerebellum as well as a 4 cm lesion in the right frontal parietal area, and a 2 cm lesion in the left frontal area consistent with multiple brain abscesses (Figure 1, left panel). Toxoplasmosis antibody (IgM) by serum ELISA test was 170 ($>$40 consistent with recently acquired infection). CSF smear for cryptococcus and the cryptococcal antigen test on CSF fluid were negative. All urine, blood and CSF cultures for bacteria and fungi were negative.

Hospital Course

The patient refused brain biopsy. His presumed toxoplasmosis was treated with pyrimethamine 25 mg by mouth each morning and sulfadiazine 1.5 grams by mouth every six hours. His anemia was found to be secondary to a deficiency of folinic acid whose function can be antagonized by pyrimethamine and folinic acid was replaced. His orthostatic hypotension corrected with hydration and his diarrhea ceased after the second hospital day. His BUN had decreased to 19 mg/dl, with a serum creatinine of 1.6 mg/l. After two weeks of hospitalization the patient was afebrile, feeling better and had gained 10 lbs.

Long-term Followup

The patient did well at home for two weeks and then returned with bilateral flank pain and gross hematuria. His BUN had increased to 27 mg/dl, with a creatinine of 5.1 mg/l. A urinalysis showed many RBCs but no casts or bacteria. A

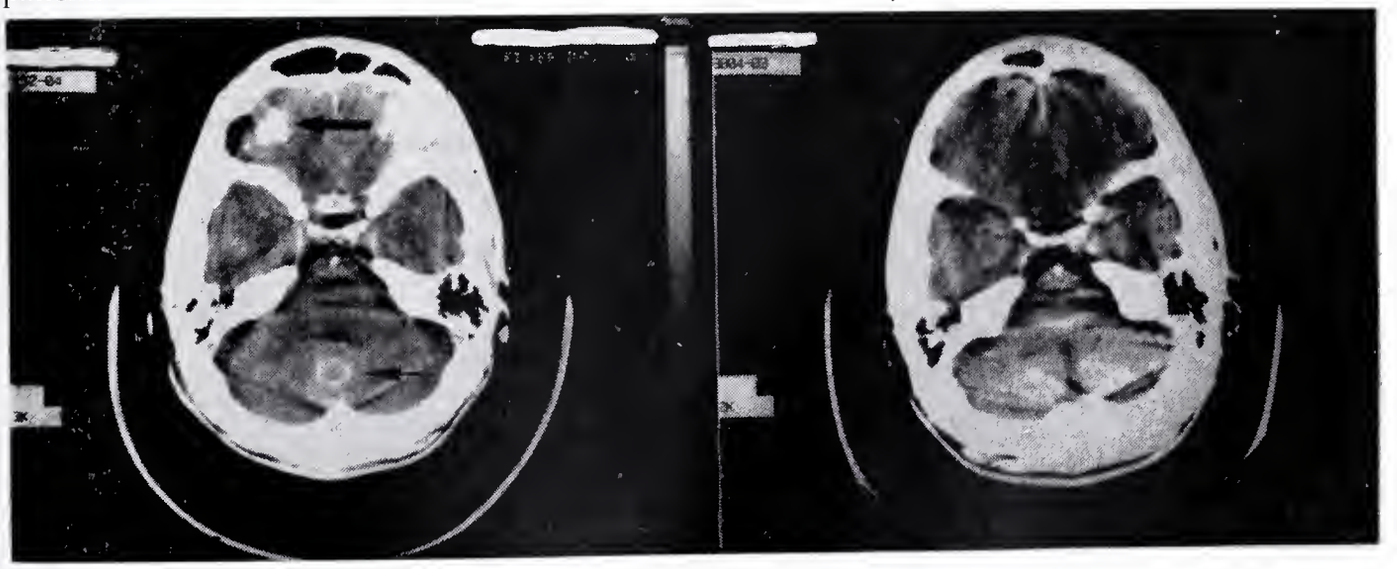


Figure 1.

Computed tomography demonstrating brain abscesses and their responses to therapy for toxoplasmosis.

Left panel: Ring enhancing lesion with surrounding edema in vermis of cerebellum (small arrow) as well as right frontal parietal area (large arrow) and left frontal area.

Right panel: Repeat computed tomography three months later showing improvement with disappearance of ring enhancing lesions with treatment for *Toxoplasma gondii*.

renal ultrasound was done and revealed a 10.7 cm right kidney and a 13.1 cm left kidney, both of which had multiple renal stones within them and both kidneys had mild hydronephrosis. (The renal stones were thought to be drug-induced by the sulfadiazine.) The patient's sufadiazine was then stopped and the urine was alkalinized. Following this, the patient passed some yellow-brown calculi that were "nonbiologic crystalline" stones on chemical analysis. "Nonbiologic crystalline stone" is a term used when the stone is not composed of the usual minerals or amino acids such as cysteine, calcium phosphate or uric acid. The crystalline pattern appeared to be similar on x-ray crystallographic analysis to a metabolite of sulfadiazine which had probably precipitated in his kidneys. With the above management and hydration, his flank pain ceased and the blood in his urine disappeared. His serum creatinine decreased to 1.9 mg/l. Off the sulfadiazine, however, he began to have spiking temperatures. Trisulfapyrimadine 1 gram every 8 hours by mouth was substituted for the sulfadiazine, and his fever remitted. He then went home and did relatively well as an outpatient with regular visits every two weeks until three months later when he was admitted with a one-day history of a stiff neck, bilateral pain behind the eyes, nausea and vomiting. This was the first time that he had ever had nausea and vomiting. His temperature was 96° F, with a pulse of 66 beats/minute and blood pressure of 108/60 mmHg. Respirations were 24/minute. Neurological examination revealed a lethargic man with decreased upward gaze. Fundoscopic exam revealed multiple retinal hemorrhages, Roth spots and cotton wool spots consistent with cytomegalovirus retinitis. Mild papilledema was present in both optic discs. He had increased nuchal rigidity and bilateral Babinski's. Oral candidiasis was noted on KOH prep. Computed tomography of his head revealed no focal lesions (his previous cerebral abscesses no longer being present) and there was no widening of intracranial cisterns. Evaluation of his cerebrospinal fluid (CSF) demonstrated many budding yeasts with a glucose of 52 mg/dl (serum glucose was 90 mg/dl), a protein of 86 mg/dl (normal 15-45 mg/dl) and one monocyte. Examination of the CSF revealed a marked elevation of cryptococcal antigen (1:1024). His condition continued to deteriorate with this cryptococcal meningitis that was treated with amphotericin B and 5-fluorocytosine, and he expired on hospital day three of respiratory arrest.

DISCUSSION

Etiology of AIDS

Acquired immunodeficiency syndrome is thought to be caused by a human T lymphocytetrophic retrovirus that has been termed human T-cell lymphotrophic virus (HTLV)-III by Gallo and colleagues,[7] while French investigators Barré-Sinoussi and colleagues[8] have isolated an essentially identical virus and named it lymphadenopathy associated virus (LAV). This retrovirus is referred to now as HTLV-III/LAV, or simply by HTLV-III or LAV. The AIDS retrovirus is transmitted through sexual contact, blood transfusions or sharing of contaminated needles.[5,6] There is no evidence at present that this infection is transmitted by casual personal contact.[6] This retrovirus attacks T-helper lymphocytes causing a defect in cell mediated immunity, making the patient susceptible to opportunistic infections. The presence of one of these opportunistic infections in a patient with no known history of immunosuppression is used by the Center for Disease Control to define AIDS (see Table I).

Clinical and Laboratory Signs of AIDS

The clinical symptoms and signs of AIDS include unexplained weight loss, lymphadenopathy, night sweats, fevers, extreme fatigue, arthralgias, a fine maculopapular rash, and loss of libido.[2,3] Laboratory evaluation which helps make the diagnosis of AIDS is inversion of the T_4/T_8 ratio as in the present patient, anergy, abnormalities of T-cell function and detection of antibodies to the HTLV-III virus by the ELISA test. A confirmatory test known as the Western blot test is often used when the initial test is positive. A Western blot test was positive in the present patient. Almost all persons infected develop antibodies to HTLV-III. Only a small portion of persons with positive HTLV-III antibodies, however, develop either AIDS (10%) or the AIDS-related complex (ARC) (25%)[9] which is defined as a person having all the clinical and laboratory findings of AIDS without the presence of opportunistic infections or Kaposi's sarcoma. Thus, a positive test alone for antibodies to HTLV-III does not mean that a person has AIDS or ARC. In addition, it should be noted that this test may be helpful in confirming the diagnosis of AIDS or ARC as in the present patient, but routine

TABLE 1
THE CENTER FOR DISEASE CONTROL DEFINITION OF AIDS

AIDS is present when a previously healthy patient between the ages of 28 days and 60 years meets both of the following criteria:

1. No known cause of immunosuppression, such as neoplastic disease, corticosteroid therapy or renal failure
2. A disease that is predictive of a defect in cellular immune function, including:
   a. Kaposi's sarcoma
   b. Primary lymphoma limited to the central nervous system
   c. Meningitis, encephalitis, pneumonitis due to:

Pneumocystis	Nocardia
Toxoplasma	Candida
Cytomegalovirus	Strongyloides
Cryptococcus	Mucormycosis agents
Aspergillus	

   d. Esophagitis due to herpes simplex, cytomegalovirus or Candida
   e. Progressive multifocal leukoencephalopathy
   f. Chronic (one month) mucocutaneous herpes simplex
   g. Chronic (one month) cryptosporidiosis enterocolitis
   h. Disseminated or central nervous system coccidioidomycosis, histoplasmosis, atypical mycobacteriosis

antibody screening for HTLV-III is not helpful as a positive test does not help one with prognosis, as only 1 in 10 persons with a positive test will develop AIDS.[9]

Virus Infections in AIDS Patients

After HTLV-III-induced suppression of T-helper lymphocytes, the host becomes predisposed to a myriad of protozoal, fungal, viral, mycobacterial and bacteria infections (Table 2). The present patient had evidence of hepatitis A, hepatitis B, and Epstein-Barr virus previous infections as well as HTLV-III infection. A breakdown in host immunity is not a new finding caused only by HTLV-III, since Epstein-Barr virus, the etiologic agent of infectious mononucleosis, has been known for some time to cause a breakdown in natural immunity leading to repeated flareups of opportunistic infections such as streptococcal tonsillitis or recurrent staphylococcal skin infections. Recent evidence suggests that the viruses causing a breakdown in immunity are very similar with a common evolutionary origin of hepatitis B and retroviruses with the hepatitis B virus arising through a deletion from a retrovirus.[10] Another virus that can cause immunodepression is cytomegalovirus[11] which has been found in as many as 93.5% of homosexual men.[12] The cytomegalovirus has been cultured from cells of Kaposi's sarcoma in non-AIDS patients as well as AIDS patients, and there is some suggestion that it is the cause of Kaposi's sarcoma.[13] The immunodepression caused by cytomegalovirus does not appear to be as long-lasting or irreversible as that found in AIDS, but more of the nature of immunosuppression caused by the Epstein-Barr virus.[11] On the present patient's last admission he had evidence of cytomegalovirus retinitis. Additional viral infections in AIDS patients are genital herpes infections with herpes simplex and progressive multifocal leukoencephalopathy, a demyelinating disease of the white matter of

TABLE 2
INFECTIONS IN PATIENTS WITH ACQUIRED IMMUNODEFICIENCY SYNDROME

Parasites:
- Pneumocystis carinii
- Toxoplasma gondii
- Cryptosporidia spp
- Isospora belli

Viruses:
- Cytomegalovirus
- Herpes simplex virus
- JC virus (progressive multifocal leukoencephalopathy)

Fungal:
- Candida albicans
- Cryptococcus neoformans
- Coccidioides immitis
- Histoplasma capsulatum

Bacteria:
- Salmonella
- Mycobacterium avium-intracellulare
- Mycobacterium tuberculosis
- Listeria monocytogenes
- Nocardia asteroides

the central nervous system, caused by the JC papovirus.

Parasitic Infection in AIDS

The present patient had *Toxoplasmosis gondii* brain abscesses that responded to sulfadiazine and pyrimethamine treatment, with clinical improvement and disappearance of these abscesses on computed tomograms (Figure 1). The protozoan, *Toxoplasmosis gondii,* is present as a nonpathogen in approximately half the population of the United States.[14] In the immunocompromised host, the organism may be pathogenic and has become the major cause of focal lesions of the central nervous system in AIDS patients.[15] On CT scan of the head, typical findings include multiple, enhancing, nodules or rings as seen in the present patient (Figure 1). To make a definitive diagnosis of toxoplasma abscess, a brain biopsy is necessary. It has been suggested, however, that in certain AIDS patients with mass lesions on the CT scan of the brain and especially those with lesions in critical brain areas that, with the addition of high serum *Toxoplasmosis gondii* titers, these patients be treated empirically with sulfadiazine and pyrimethamine since the therapy may be quite effective if initiated promptly.[16] The hospital in New York which transferred the present patient has a large AIDS population and they have been treating these patients empirically with the above combination treatment, whenever there is a suggestive brain CT and positive toxoplasma titers. This patient had already been started on this combination when he arrived and his serial CT scans did show definite regression of his brain abscesses on this treatment. Whether empiric therapy is reasonable for Arkansas, where there are only a small percentage of patients with AIDS in comparison to New York, is unknown at present. Since a number of other causes of abscesses in the brain will give similar findings on CT scan and noninfected patients may have positive titers of *Toxoplasmosis gondii,*[15] it would appear prudent at present in Arkansas to establish the diagnosis by biopsy since the treatment of toxoplasma abscesses itself may have marked side effects, such as the formation of renal stones as in the present patient. Likewise, since it usually takes considerable time (weeks to months) to demonstrate regression of these lesions on CT scan secondary to *Toxoplasmosis gondii* treatment, if the abscesses were due to some other cause (bacterial, fungal, etc.), the patient would probably die during the long interval where the actual diagnosis was not known and not being treated.

While *Toxoplasmosis gondii* is the most common cause of cerebral abscesses and encephalitis in AIDS patients, another protozoan, *Pneumocystis carinii,* is the overall most recognized opportunistic infection in AIDS patients.[17] *Pneumocystis carinii* infection usually presents as pneumonia that is either gradually progressive over many weeks or may be fulminant.[17] Bronchopulmonary lavage has been found to have a high yield of these organisms and is a sensitive procedure for making the diagnosis in patients with AIDS, thereby decreasing the need for more invasive procedures such as open lung biopsy to make the diagnosis. Clinical response to either trimethoprim-sulfamethoxazole or pentamidine isothionate has been good and equally effective, but there does appear to be a number of side effects in AIDS patients with either agent. Trimethoprim-sulfamethoxazole is presently considered the drug of first choice, with pentamidine added or substituted if there is no clinical improvement in 5 to 10 days. Two other parasites, *Cryptosporidia spp* and *Isospora belli,* cause a prolonged, profound diarrhea in persons with AIDS.

Fungal Infections in AIDS Patients

Oral candidiasis is very common (59%) in AIDS patients and progression to candidia esophagitis is common.[18] The present patient had oral candidiasis in addition to his viral and protozoan infections. Topical nystatin or clotrimazole, or oral ketoconazole appear to be equally effective in treating oral candidiasis.[18] The present AIDS patient did not have evidence of *Cryptococcal neoformans* on CSF testing at his first admission, but his last admission was for cryptococcal meningitis. Cryptococcal meningitis is the most common form of fungal meningitis in both AIDS patients and in patients with normal immunity.[19] Spinal fluid findings are variable but characteristically show elevated protein, low glucose and pleocytosis predominantly with lymphocytes. Treatment is with amphotericin B and 5-fluorocytosine.[19]

Bacterial Infections in AIDS Patients

The most common cause of mycobacterial infections in AIDS patients is *Mycobacterium avium-intracellulare,* an ubiquitous environmen-

tal pathogen that, before AIDS, was a virtually unrecognized infection in adults, with only 14 documented cases in the world literature before 1979.[20] Since 1979 there have been several hundred cases in AIDS patients.[20] *M. avium-intracellulare* is a good example of an infectious agent with very low pathogenic potential for almost all other immunosuppressed patients except AIDS patients.[20] On the other hand, *Listeria monocytogenes* and *Norcardia asteroides* which usually require cell-mediated immunity to prevent them from becoming opportunistic, are rare in AIDS patients. *Mycobacterium tuberculous* and *Salmonella* do have an increased incidence in AIDS patients.[20]

Kaposi's Sarcoma

Kaposi's sarcoma is a neoplasm manifested mainly by multiple vascular nodules in the skin and other organs.[21] AIDS-related Karposi's sarcoma has a worse prognosis with wide dissemination to many organ systems than non-AIDS associated Kaposi's sarcoma.[21] AIDS-related Kaposi's has an 80% two-year mortality. Most of the AIDS-related Kaposi's die of opportunistic infections described above rather than their Kaposi's sarcoma per se.[21] The possible cause of Kaposi's sarcoma by cytomegalovirus[13] was discussed above.

Therapy of AIDS

There is no proven therapy for acquired immunodeficiency syndrome. Anti-viral agents, α-interferon, Interluken II, immunological adjuvants and HTLV-III vaccine are all being investigated as possible treatment(s) of AIDS. Most of the opportunistic infections described above do respond to the various treatments that were described with the various infections, but unfortunately the same opportunistic infections tend to recur within one month of stopping treatment necessitating long-term treatment for each of the respective opportunistic infections. Disseminated Kaposi's sarcomas do respond to combination cancer chemotherapy with actinomycin D and vincristine, while localized lesions respond to radiation therapy, but these therapies may further diminish the immune response, potentially increasing the rate of opportunistic infections and shortening survival.[21] All of these factors must be considered in designing an individual treatment regimen for each patient with acquired immunodeficiency syndrome.

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Obstructive Sleep Apnea: Current Therapy

Stephen J. Wetmore, M.D.,* Lawrence W. Scrima, Ph.D., Nancy L. Snyderman, M.D., F. Charles Hiller, M.D.

Until recently, the patient who complained to his physician that he was sleepy all the time was not treated very seriously. Likewise, the patient who, at the insistence of his spouse, mentioned that he snored loudly was often looked at humorously. Now, the medical profession is learning that excessive daytime sleepiness and snoring are the two most common symptoms of obstructive sleep apnea (OSA).

Patients with OSA may present with a variety of medical problems including hypertension, congestive heart failure, and cor pulmonale, in addition to hypersomnolence.[1] On the other hand, some patients are virtually asymptomatic except for snoring. Five or ten years ago, prior to the advent of sophisticated overnight sleep monitoring, only the patients with severe OSA who also had other life threatening medical illnesses were diagnosed. Most of those patients were grossly overweight and had the characteristic features of the Pickwickian Syndrome, including hypersomnolence, periodic breathing, hypoventilation, and cor pulmonale. When treated by tracheotomy their OSA symptoms, as well as their other medical problems, usually improved dramatically.[2] Although we still see a few of the Pickwickian-type of patients, most current patients are only mildly or moderately overweight, and some are not obese at all.

Loud snoring is an almost universal symptom of OSA. The snoring is often so loud that it bothers people sleeping in adjoining rooms. The spouse often remarks that the patient stops breathing for varying lengths of time during the night and that shaking the patient restores his breathing. During the day he feels tired all the time and frequently falls asleep, sometimes inappropriately, e.g. driving a car. He may also complain of morning headaches, irritibility, poor memory, depression, and impotence.

On examination the patient is often noted to be mildly or moderately obese with a thick neck. The oropharynx is often narrow and/or shallow. A wide or long uvula, prominent tonsils, a large tongue, or a retruding mandible may also be present. Most patients with OSA have smaller oropharyngeal airways than control patients.[3] The nose should be examined for areas of obstruction because nasal obstruction may exacerbate OSA.[4]

If OSA is suspected on the basis of the history and physical exam, an evaluation and an overnight sleep study should be obtained at an established sleep center. The evaluation is often performed by a team consisting of a clinical polysomnographer and a pulmonary specialist or other physician trained in diagnosing sleep disorders. Other members of the team may include an otolaryngologist, psychiatrist, neurologist, urologist, and a dietician. If significant sleep pathology is suspected, polysomnography (PSG) is arranged. Monitoring during PSG includes electroencephalography to determine sleep staging, electromyography to detect nocturnal myoclonus and to assess respiratory efforts from the intercostal muscles, nasal and oral thermistors to detect air flow, pulse oximetry to monitor oxygen saturation, and electrocardiography to evaluate heart rate and arrhythmias.

The voluminous data that is produced during polysomnography is evaluated to determine the presence and severity of sleep disorders. OSA is diagnosed if the patient has five or more apneic episodes per hour, each lasting at least 10 seconds. Hypopneic episodes causing sleep arousals and drops in oxygen saturation (Sa02) of at least 4% are also tabulated. Patients with moderate or severe OSA often have hundreds of apneic and hypopneic events per night with the average episode lasting 20-60 seconds. As the apneic episodes become more frequent and more prolonged, the Sa02 may drop from a normal baseline of 94% to 97% down to less than 60%. An Sa02 of 60% is equivalent to a Pa02 of 30. Persistent oxygen desaturation may lead to cardiac decompensation, arrhythmias, cor pulmonale, or sudden death.

TREATMENT

Patients with OSA should avoid all sedatives and hyponotics including alcohol. They should be told to avoid sleeping on their back. This can sometimes be accomplished by sewing a pocket into the back of the pajama shirt into which a

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hard object, such as a hand ball, is placed. If overweight, a weight loss program is recommended. In patients with mild to moderate OSA in whom these measures fail, or in patients with moderate to severe OSA, other measures, such as drugs, breathing devices, and surgery should be considered.

Although many drugs have been tried, few have been effective. Due to the inconsistent results obtained from drug therapy, we seldom use drug therapy for OSA.

Two kinds of devices have found some usefulness in the management of the OSA patient. The first is a modified denture known as the "tongue retaining device".[5] During sleep the device is supposed to hold the tongue forward and prevent it from falling posteriorly and obstructing the pharynx. Only limited success has been reported with this device and we no longer utilize it.

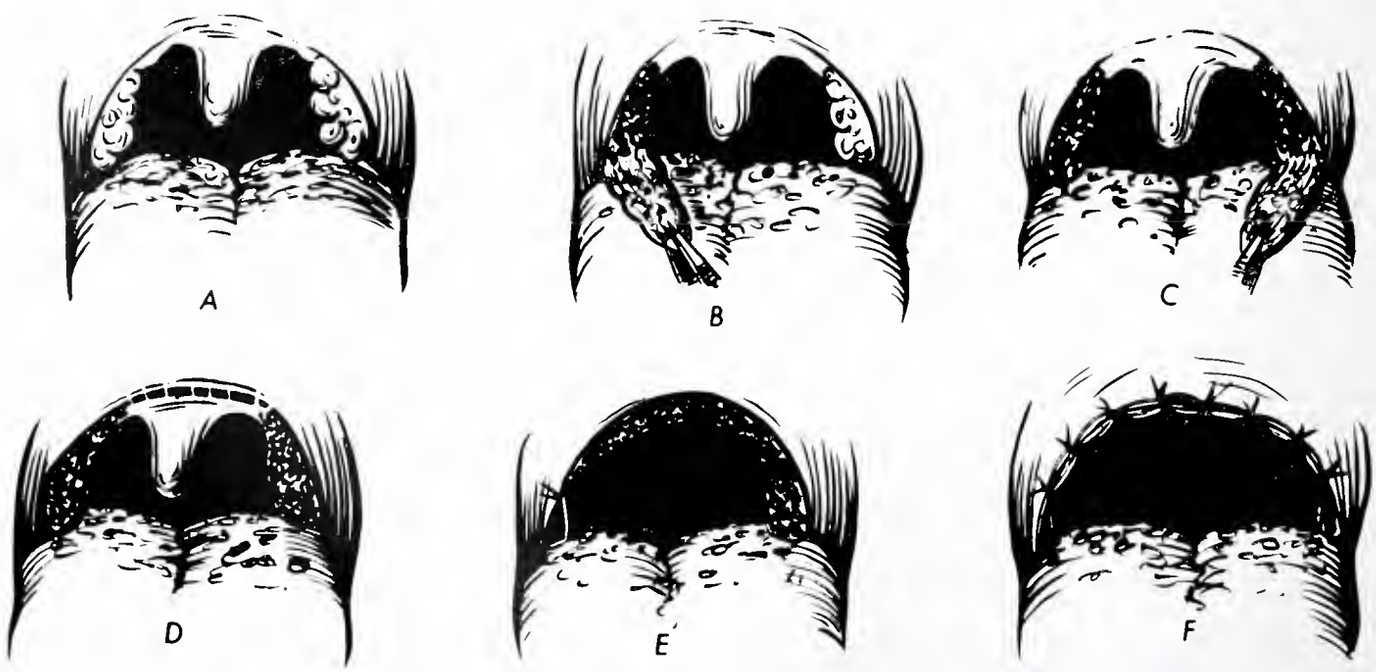
The other kind of device is continuous positive airway pressure (CPAP).[6] CPAP consists of placing a mask over the patient's nose and applying sufficient airflow to prevent the upper airway from collapsing during sleep. We have obtained good results in selected patients with this method of treating OSA. Unfortunately many patients are unwilling to have a mask placed over their face all night long and some patients cannot tolerate the high air flows that are often needed to make the device effective. Others do not wish to be "tied to a machine" every night.

A large number of surgical procedures (Table 1) have been used in the treatment of OSA but only two have received widespread acceptance. Tracheotomy is the oldest and most effective form of treatment of OSA. Tracheotomy bypasses the site of obstruction and improves the signs and symptoms of OSA in virtually 100% of patients. The patient usually plugs the lumen of the tracheotomy tube during the day allowing him to speak normally; at night the tube is kept open. The main drawbacks of tracheotomy are the stigma of having a "hole in the windpipe" and the nuisance of frequently cleaning and changing the inner cannula of the tube.

TABLE 1
SURGICAL PROCEDURES FOR TREATMENT OF OSA

Tracheotomy
Uvulopalatopharyngoplasty
Tonsillectomy and adenoidectomy
Nasal surgery
Mandibular advancement
Expansion hyoidplasty
Tongue reduction

Uvulopalatopharyngoplasty (UPPP), which was first reported[7] in this country in 1981, consists of excising the tonsils and uvula, thereby enlarging the airway. (Figure 1) The advantages of UPPP are its simplicity and its avoidance of a prosthesis or tube. The major disadvantage is the unpredictability of its effectiveness in the individual patient. The only way to determine the efficacy of UPPP is to insist that the patient obtain a



The tonsils and uvula are excised and the tonsillar pillars and soft palate edges are sutured.

postoperative PSG about a month after surgery. Good results in treating the objective parameters of OSA vary from 44% to 66%, but 64% to 85% of patients are subjectively improved in regard to hypersomnolence, and 93% to 98% are improved in regard to snoring.[8-13] The problem in evaluating the results of UPPP is that the subjective results may be better than the objective results. For example, the patient who had severe OSA with an apnea index (apneas per hour) of 50 and a lowest Sa02 of 42% may be clinically much improved following UPPP and may improve his apnea index to 15 and his lowest Sa02 to 62% but may still be at risk for arrthymias and sudden death. This type of patient needs to be counselled of his risks and advised to consider a trial of CPAP or a tracheotomy.

OSA is a common problem whose severity is difficult to gauge without PSG. A variety of treatments may provide partial or complete resolution of this condition, but with the exception of tracheotomy, the efficacy of treatment should be assessed by PSG.

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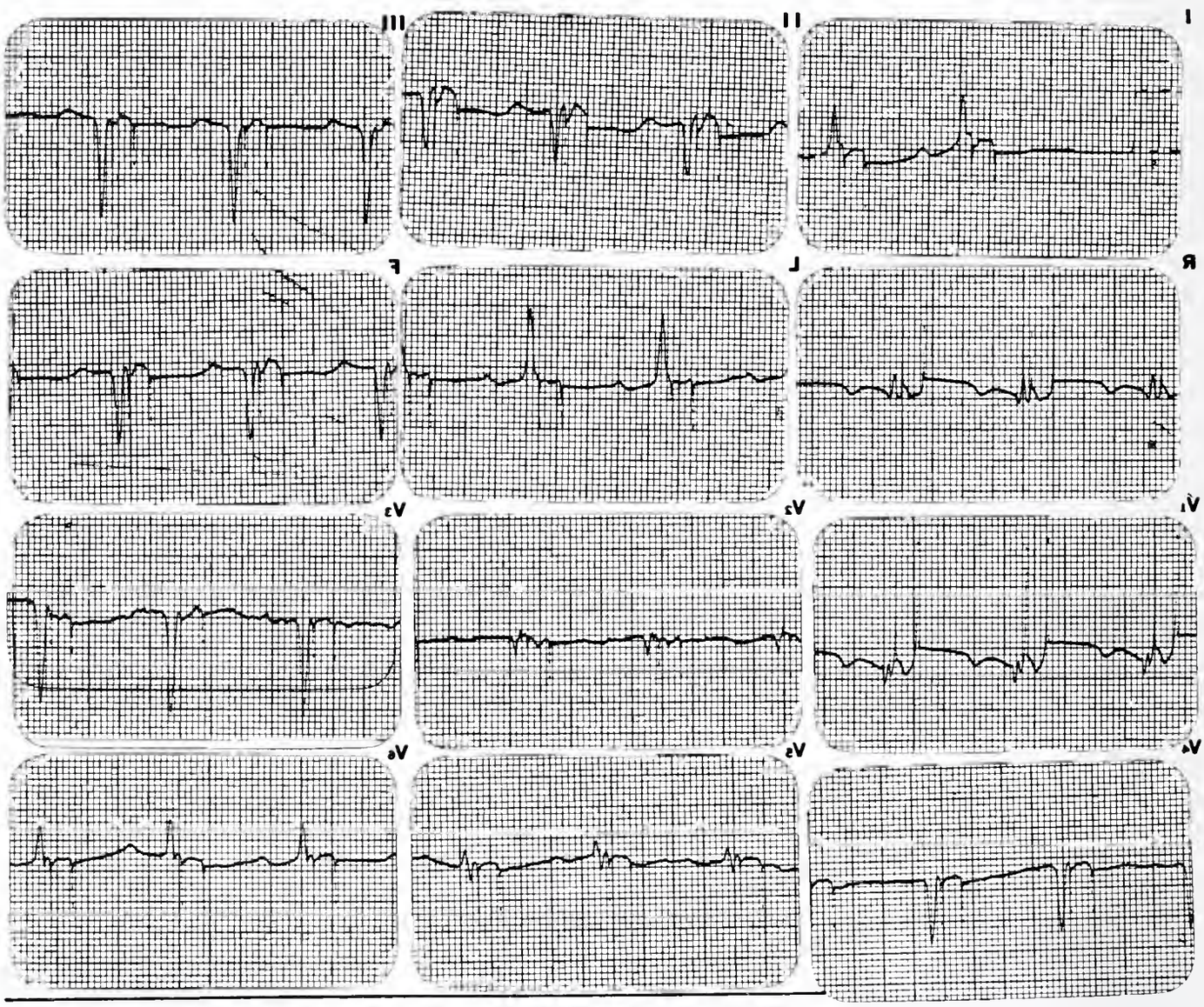
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ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See answer on page 183)

HISTORY: C. H. is a 78-year-old man. He has been previously evaluated and treated for syncope. Two years later, he was presented to the emergency section in coma. This ECG was obtained to assist with his evaluation. What do you think of the trace?



William C. Roberts, M.D., and John W. Watson, M.D.
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Orthopedic Trends

Walking

H. Austin Grimes, M.D.*

Recently we had the unique experience of talking to and examining a trekker who had completed a 5,000 mile walk from New York to Mexico City. Crossing at the border at Hermosillo into Mexico, he ended his walk at the World Soccer Cup Matches which were beginning in Mexico City in June, 1986.

His walk was ostensibly for charity and the side effect was that he walked himself into excellent physical condition, averaging 20 miles a day on the days that he walked, as he did not walk every day. The trek took slightly over a year and originated in Liverpool, England and began in this country in New York City.

One of the more remarkable aspects of his journey was his almost total lack of illness or physical ills that might deter an individual from taking on such a task.

He wore out eight pairs of running shoes which were furnished by a running shoe manufacturer who has devoted a good deal of research into design and fabrication of ideal shoes for running. The company is currently promoting a walking shoe, as are many other shoe fabricators, and what is thought to be the next fad in mass participation in health conditioning: walking.

We have long been advocates of walking for exercise and hopefully the impetus generated by sensible footgear manufacturing will add the necessary technical expertise to make this activity a reasonable exercise for all ages.

Socks are the only other necessary item for this activity and our walker was furnished polypropylene socks which stood up fairly well for the long-distance walking he did. Cotton socks are desirable but difficult to find without some synthetic mixture, but heavily elastisized materials should be avoided. Blisters can be avoided on walks that do not exceed five miles or so but can hardly be avoided on a trek.

The areas of complaints by individuals who are not trained in trekking but are casual walkers are forefoot pain (metatarsalgia), heel pain (frequently plantar fasciitis) and posterior tibial tendinitis. The posterior tibialis tenden is often thought of as a passive muscle in the analysis of gait, but apparently plays a more active role in distance walking than thought. Our trekker developed discoloration along the posterior tibial tendon about the ankle which may have been due to capillary hemorrhage which surfaced and discolored the skin over the medial aspect of the ankle.

Another interesting aspect of his gait was that when wearing ordinary street shoes there was a wearing down of the outside aspect of the heel of the shoe, but in the trek shoes there was a pronation effect to a moderate degree with wearing down of the inner aspect of the heel and breaking down of the extended counter of the heel.

The illnesses he experienced, which were mild, were heatstroke to a mild degree (prevented by Gatorade) and expectedly, diarrhea one day in Mexico. Copious amounts of Gatorade were taken in the U. S. In Mexico, mixed water and lime juice were substituted.

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X-rays were made of the trekker's feet and ankles and were unremarkable for having covered this great distance. The major problem he experienced was loss of toenails, especially the great toe, and was most likely due to repeated trauma of the hyperextension of the great toe striking the toe of the shoe as well as the foreward slide of the foot in the shoe on heel strike to stance phase of gait to push off. One of the differences in walking shoes as opposed to running shoes is a greater amount of toe room for the walker. Various shoe makers are in the process of a vigorous promotional campaign launching their shoes for walking, and this should go a long way in encouraging walking as an exercise. Group walking has been done in Europe for many years. A magazine has just premiered called "Walking" and is devoted exclusively to this activity. The other gait components seem to be little affected (pelvic tilt, rotation, lateral motion and knee motion) except the midstance phase of the foot and ankle where the knee is fully extended only at the instant of heel strike and begins immediately to flex slightly and move to more flexion as the foot rolls into push off phase.

One of the undesirable occurrences in walking and free swinging of arms is swelling of the hands. Exaggerated flexion of the elbows, common among race walkers, is an effective way to reduce swelling caused by centrifugal force.

A program graduated to the walker's ability and time allotted for activity, should be flexible so as not to discourage the individual from participating. Getting into shape by walking is not as demanding as running or jogging, and is every bit as rewarding if done approximately five times a week. Varying the route of the walk also helps prevent boredom and distinguishes it from other activities such as jogging, trampoline, stationery bicycle riding, rope skipping, etc.

The relative safety of walking as compared with other exercise activities cannot be overemphasized, especially for the older participants.

A judicious program of walking will help keep osteoporosis under control and, often, we believe, is just as effective as calcium intake without an exercise program. However, both are recommended.

We think that almost all people could commence a walking program without going to a physician for evaluation as is recommended before beginning running programs.

Endometriosis: A Review

Stephen E. Torres, M.D., and David L. Olive, M.D.*

INTRODUCTION

Endometriosis is one of the diseases most commonly encountered by the gynecologist, forcing women to make decisions regarding reproductive issues such as childbearing, suppression of gonadal function and even surgical castration. In spite of its prevalence, no standard pattern of treatment has emerged; instead, many practitioners have developed their own forms of treatment. Some of these are effective while others are not, but some forms of treatment may actually cause more problems than they alleviate. In this discussion, we will review the origin of endometriosis. We will also examine current forms of medical and surgical therapy along with their indications, advantages, and disadvantages. Finally, we will make recommendations on how to individualize treatment for a disease process whose presentation is as variable as the patients it affects.

PATHOGENESIS

For many years, endometriosis was thought to be due to metaplasia of the original celomic membrane.[1] To date, however, there has been no scientific data to support this theory.[2] In 1921, John Sampson proposed a theory of endometrial transplantation whereby cells originating from the uterine endometrium could spread via a number of routes: lymphatic dissemination, vascular dissemination, iatrogenic transplantation, and retrograde menstruation.[3-7] Although all four have since been demonstrated as a possible means of spread of endometrial tissue, by far the most prevalent form is by retrograde menstruation. There is now experimental proof and direct observation which validates the theory including passage of viable cells through the Fallopian tubes as confirmation of retrograde menstruation, proof that the cells can implant and grow, and evidence that transplanted endometriosis can be produced in the human.[2] Furthermore, the anatomic distribution of the lesions is consistent with retrograde menstruation, as discussed below.[8]

Several authors, however, have demonstrated the near universality of retrograde menstruation in the reproductive age woman.[9,10] Why, then, do most women not develop endometriosis? One possible clue rests with the data of Steele and colleagues who demonstrated a decrease in cell-mediated lymphocytotoxic response to endometrium in the patient with endometriosis.[11] Given these facts, Olive and Hammond have proposed a comprehensive theory which, in essence, states that the chances of developing endometriosis are based upon the amount of retrograde menstruation and the ability of the lymphocytotoxic response to remove this debris.[12] Endometriosis might be expected to occur with greater frequency in women with normal retrograde flow and deficient lymphocytoxicity, or women with excessive retrograde menstruation and normal cytotoxic response (Table 1). To test this theory, women with functioning endometrium, patent tubes, and outflow obstruction were studied and found to have a very high rate of endometriosis.[13] The rate increased even further if only women with hematocolpos or hematometria were included.

PATHOLOGY, EPIDEMIOLOGY, SYMPTOMS AND SIGNS

Histologically, endometriosis has been defined by the presence of ectopically located endometrial

TABLE 1
RETROGRADE MENSTRUATION VS. LYMPHOTOXICITY

Retrograde Menstruation		Lymphotoxicity	
Normal	+	Normal	No Disease
Normal	+	Decreased	Endometriosis
Decreased	+	Normal	Endometriosis
Decreased	+	Decreased	No Disease

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stroma and glands. Both are required to make the histologic diagnosis. It is a disease of the reproductive years, with a mean age of diagnosis of 25-29 years and onset of symptoms about five years before diagnosis.[14,15] Although it is impossible to accurately estimate its incidence, as only symptomatic patients seek therapy, the data that are available suggest an overall rate of about 5%.[16]

Early data suggested a strong racial link. However, subsequent studies which controlled for socioeconomic status and cultural differences have shown that variations in development of the disease are not due to inherent racial factors but to such variables as age of first childbearing, availability of birth control, incidence of acute salpingitis, and decisions to postpone childbearing until later in life.[17,18] Each of these factors are believed to influence the amount of retrograde menstruation and is thus directly linked to the probability of developing the disease.

The symptom most likely to bring the patient with endometriosis into the physician's office in the 1980s is infertility. The rate of endometriosis in the infertile couple has generally been in the range of 20-30% with a relative risk as high as 19 fold when compared to fertile couples.[16] Therefore, there is a strong association and perhaps even a causative relationship with infertility. Pelvic pain is a frequent complaint along with dysmenorrhea, dyspareunia, non-cyclic abdominal pain, and backaches. Other symptoms are related to the site of the lesions. Implantation on the pelvic viscera may result in bowel-related symptoms such as tenesmus, dyschezia, and obstruction of the urinary tract with symptoms such as cyclic hematuria, dysuria, frequency or urgency. Lung implants can cause pleuritic pain or hemoptysis, and brain implants can cause seizures, although such phenomena are rare.

The most frequent findings on physical examination are tenderness or nodularity of the cul-de-sac, thickening of the parametria, and adnexal masses. None of these findings, of course, are specific for endometriosis. In addition, a high percentage of women presenting with infertility will have no physical findings on pelvic exam, so a negative pelvic exam should not be relied upon when considering endometriosis as a cause of unexplained infertility. Given these facts, it becomes clear that when considering endometriosis, the diagnosis can only be made by direct visualization (laparoscopy).

Several factors probably determine the location of endometriotic implants, including the site of entry, gravity, mobility of the transplantation site, and suitability of that site for accepting the implant.[19] Implants are frequently found in areas adjacent to the fallopian tube ostia, the presumed route of entry of the endometrial cells. Gravity-dependent areas are most often affected, with anterior and posterior implants found in anteverted uteri but only posterior implants noted in retroverted uteri.[8] Sites which are relatively immobile are preferred; therefore, large bowel is frequently affected but small bowel is affected only occasionally. Ovarian and peritoneal surfaces are common sites of implantation but squamous epithelium is a poor receiving surface for implants; thus, vaginal implants are rare.

MECHANISM OF INFERTILITY

There are probably a number of mechanisms which are responsible for the increased incidence of infertility when compared to women without endometriosis. The most obvious would be those caused by pelvic adhesions with scarring of the tubes and ovaries. This can result in a disruption of the normal anatomic relationship between the tube and ovary. Tubal occlusion or significant anatomic distortion, however, is the exception rather than the rule in the infertile woman.[8] An impairment of tubal muscular contractility may play a role in infertility but the link between endometriosis and tubal dysfunction, if present, is still unclear.[20,21]

Relatively recent research suggests a role of the intraperitoneal inflammatory response to retrograde menstruation in infertility associated with endometriosis. Increased peritoneal fluid volume with proteolytic enzymes and increased numbers of leukocytes are frequently encountered.[22-24] The leukocytes are about 90% macrophages and probably represent a localized inflammatory process. The endometriosis macrophages appear "activated" with an enhanced ability to resist "foreign" tissue.[25] It is postulated that the increased leukocytes have an adverse effect on gametes, with the leukocytes phagocytizing sperm in the lumen of the uterus in much the same way as the mechanism of action of IUDs. The hypothesis that retrograde menstruation leads to a localized peritoneal inflammation with decreased

fertility has an increasing body of supportive data. However, recently published data suggests that macrophage numbers are not related to the presence of implants but to the inflammatory response provoked by the products of retrograde menstruation.[26] In the future, visualization of implants may become less important in infertile women with analysis tending towards evaluating macrophages in peritoneal fluid.

Over the years, a number of staging systems have been developed by infertility specialists to compare the results of different types of treatment. These classifications presume that the severity of the disease correlates with the degree of infertility but this has never been proven.

The most widely used staging system was developed by the American Fertility Society and breaks the disease down into four categories: Mild, moderate, severe, and extensive.[27] Scores are assigned for presence and type of adhesions or endometriosis lesions involving peritoneum, ovary, or tube and then the sum of the individual scores is used to stage the individual's disease. The value of such a system is questionable, however. Rock and colleagues have shown that the criteria used to delineate the stages in the AFS system are arbitrary and not based on objective data.[28] The American Fertility Society recently issued a revised classification system, but this, too, is based upon arbitrary criteria.[29] A large prospective study is needed to adequately define the relationship between extent and location of disease and the probability of conception.

TREATMENT

Various types of therapy for treatment of endometriosis were developed for a select group of patients in fertility centers and have used subsequent fertility as a measurement of the success of the treatment. However, factors such as length of infertility, primary versus recurrent disease, and length of follow-up have not been closely examined, and the methods of determining subsequent fertility all have serious flaws which make an accurate interpretation impossible. There is some good data that indicates a relatively high pregnancy rate with no treatment in women with mild endometriosis, although it is less than for the general population.[30] There is a very low pregnancy rate with severe disease, probably related to the increase in pelvic adhesions and subsequent distortion of the pelvic anatomy as well as mechanical factors.[31] Little can be definitively stated regarding moderate disease.

MEDICAL THERAPY

In attempts to increase fertility, a variety of pharmacologic approaches have been tried. They have in common the goal of attempting to interrupt the pattern of cyclic ovulation thereby disrupting the hormonal supply upon which the endometriotic implants depend.

Danazol is the most commonly used treatment for endometriosis today. It was initially thought to work by producing a pseudomenopause, but is now known to work by creating a hormonal state analogous to chronic anovulation with absence of the LH surge, with elevated estrogen levels, increased androgens, and altered steroidogenesis in the ovary and adrenal gland with subsequent atrophy of the implants. The appropriate dosage is probably that which is sufficient to cause amenorrhea. 600-800 mg/day produces amenorrhea in 98-100% of patients, 400 mg/day produces 80% amenorrhea, while 200 mg/day causes amenorrhea in only 44%.[32] There is a significant recurrence rate, especially in patients who fail to achieve pregnancy after treatment. With mild endometriosis, no difference in conception rate is noted for patients treated with danazol and those managed expectantly.[33] Not much data is available to evaluate moderate, severe, and extensive disease, but what is available is not encouraging. This form of treatment is expensive, time-consuming and associated with many side effects, including weight gain, muscle cramps, decreased breast size, flushing, mood changes, and many others. Significantly, some of the side effects may be irreversible.

Progestogens act by causing decidualization and eventual atrophy of the endometrial implants. The dosage we use of medroxyprogesterone is 20 mg. daily for three to six months; improvement in symptoms has been noted in most patients. The oral route is preferred because it is quickly reversible should side effects become a problem. These side effects are variable and dependent on the agent used, the dose, the treatment interval and the route of administration. However, in contrast to Danazol, all are reversible. They include transient breakthrough bleeding, nausea, breast tenderness, fluid retention, and depression. There is little accumulated data on the use of progestogen alone for the treatment of infertility

associated with endometriosis; initially the data appeared promising[34] but additional studies have not been as encouraging.[35] Additional randomized, prospective clinical trials with adequate controls are badly needed.

Combination estrogen-progestogen regimens, which produce a "pseudopregnancy" have been widely used for many years. It is believed to produce an initial decidualization and growth of endometrial tissue which is followed in several months by atrophy. Unfortunately, there is a high incidence of side effects. For this reason, combination regimens are not considered a treatment of choice as an initial approach to the disease.

Estrogens were among the first treatments used for endometriosis in the 1940s and are mentioned now only to condemn their usage. Besides a total lack of efficacy, a number of severe side effects resulted, including thromboemboli, endometrial hyperplasia with abnormal bleeding, hypertension, and severe nausea and vomiting.

Methyltestosterone has also been used and, as expected, is associated with androgenic side effects. Atropic vaginitis, endometrial atrophy, and cessation of menses as a result of estrogen antagonism occur, and there has never been demonstrated enhancement of fertility. Therefore, this is not a drug of choice.

A relatively recent addition to the treatment is the GnRH agonist approach. These bind to GnRH receptors in the pituitary, thereby preventing release of FSH and LH and eventually leading to hypoestrogenism, mimicking the menopausal state by producing a "medical oophorectomy". It has been demonstrably effective in resolving endometriotic implants but has a high rate of perimenopausal symptomatology such as hot flashes.[36] Its effect on fertility is unknown at this time, but studies are in progress.

SURGICAL THERAPY

Excision of endometriosis at laparotomy is a common form of therapy; frequently, at the time of surgery, adjunctive therapy is performed such as lysis of adhesions, presacral neurectomy, partial omentectomy, or uterine suspension. Studies have failed to demonstrate, however, an enhancement of fertility rates except in cases of anatomic distortion.[27] Thus, blanket usage of surgery in endometriosis patients to enhance fertility is unwarranted. Instead, surgical decisions should be based upon factors such as symptoms, patient age, co-existing pathology, and the degree of alteration of normal anatomic relationships of the pelvic structures.

Laparoscopy may be of some benefit in improving fertility for several reasons. It usually involves some degree of cervical dilatation and there is some data which suggests a higher rate of cervical stenosis in patients with endometriosis, with subsequent higher volume of menstrual products introduced into the peritoneum by retrograde menstruation.[37] An improvement might be expected with dilatation but this would only be short term since there is probably no permanent change in the caliber of the cervix. Removal of peritoneal fluid may have a beneficial effect on fertility by reducing the quantity of macrophages present, as mentioned previously. Data also exists suggesting increased pregnancy rates in endometriosis patients following hydrotubations.[38] It may well be that tubal insufflation of dye at laparoscopy contributes to the procedure's beneficial effect upon fertility.

Laser laparoscopy is currently fashionable as a treatment for endometriosis. While it does get rid of implants, there is no evidence that it is any better at increasing fertility in patients with mild disease.[39] In addition, it carries the risk of several serious complications, most notably thermal injury to bowel or other pelvic viscera. While this technique may be a reasonable option for an experienced laser laparoscopist in the patient with endometriosis-associated pain, its value in promoting fertility is questionable.

TREATMENT OF PAIN

Medical management is generally quite effective for treatment of symptoms other than infertility. Danazol improves pain in 72-100% of patients treated.[40] Progestational therapy produces symptomatic relief in 78-100%,[31,41] and methyltestosterone provided relief in 73-79% with improvement in up to 96%.[42] Estrogen-progestin therapy provided relief from pain in over 80% of those treated.[43] Since all are effective, the choice of medication should depend upon other considerations such as side effects, prior adverse reactions, cost and convenience.

The therapy that is used initially may not be necessary for long term maintenance therapy. A logical and sound approach to long term therapy is an initial interval of intensive therapy with

drugs designed to cause implant regression followed by treatment with a less dramatic hormonal approach as prophylaxis against recurrence, such as low dose oral contraceptives.

In the patient who has failed medical therapy or desires a permanent cure without regard to fertility, abdominal hysterectomy with bilateral salpingo-oophorectomy is virtually guaranteed to end the patient's complaints. Hormone replacement will be indicated postoperatively, but large doses should not be used. Symptoms rarely recur but if they should, the hormonal replacement may simply be stopped. Whether or not the ovaries should be removed should be dependent upon the severity of the disease and the involvement of the ovaries.[44]

FUTURE DEVELOPMENTS

At the University of Arkansas Division of Reproductive Endocrinology, we are currently engaged in a variety of projects to help increase our understanding of endometriosis. As mentioned earlier, current diagnostic methodology is limited to laparoscopic visualization of the endometriosis. However, we believe a non-invasive alternative may be on the horizon in magnetic resonance imaging. We have instituted clinical research projects in both humans and non-human primates which we hope will determine the value of this procedure in the diagnosis and long term evaluation of this disorder.

Additional endometriosis research is presently being conducted in the area of treatment. While, as mentioned previously, no medical or surgical therapy has been shown to enhance fertility in mild disease, it may well be that specific subgroups *can* be benefited. Specifically, we have hypothesized that in women with endometriosis-associated infertility and elevated peritoneal macrophage levels, a reduction in macrophage number will increase fertility. Medroxyprogesterone acetate, a commonly used progestin, has been shown anecdotally to suppress macrophage counts in the endometriosis patient. We have currently embarked on a randomized clinical trial of medroxyprogesterone acetate versus no therapy in women with mild endometriosis in an attempt to determine if this modality will indeed enhance pregnancy rates.

Future studies in endometriosis will be directed at more fundamental questions of pathogenesis. Investigations into the nature of decreased lymphocytotoxic response in these women and the presence of CA-125 antigen (a marker for inflammation) in endometrium are planned. It is hoped that such studies can help elucidate the basic mechanisms of disease development, as well as aid in our understanding of diagnostic and therapeutic approaches.

CONCLUSION

In treating a patient with endometriosis, when enhancement of fertility is the main goal, there is a paucity of prospective, controlled data in regard to mild and moderate disease. It appears, however, that neither medical nor surgical treatment are particularly efficacious. With severe disease and resultant distortion, surgery is indicated to improve anatomic relationships. When pain is the main complaint and preservation of fertility is an issue, almost all medical approaches provide relief. We feel progestogens provide good results with fewer side effects than other drug therapies, with long-term therapy using oral contraceptives. Obviously, if this regimen is ineffective a different medication should be tried. When fertility is not an issue, abdominal hysterectomy and possible oophorectomy is the treatment of choice, barring other complicating factors. Low dose hormone replacement postoperatively should be instituted following oophorectomy; however, if symptoms recur, hormone replacement should be stopped. Research is currently in progress to enhance our understanding of the disease and broaden our armamentarium for combatting endometriosis.

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ANSWER — Electrocardiogram of the Month

DISCUSSION: The mechanism is other than a normal sinus rhythm. Indeed, one quickly notes two pacemaker artifacts for each QRS, one initiating a "P-Wave" and one initiating the QRS complex. This is the pattern expected of an AV sequential pacemaker. On this strip, praper synchrony is present between the atrial and ventricular artifacts with a heart rate af 72/minute. Though pacemaker malfunction is nat excluded on the basis af this ECG alane, one should look carefully for ather causes af cama.

The editar wishes to thank Dr. Roberts of Canway, Arkansas, far his assistance with this manth's feature.

Cancer Management Problems

Carcinoma of Lung with Mediastinal Metastasis

Carlos A. Araoz, M.D., Robert C. Landgren, M.D., Ben M. Lincoln, M.D., James E. McDonald, M.D., and S. William Ross, M.D.*

PROBLEM

A sixty-one-year-old man was admitted to St. Vincent Infirmary Cancer Center because the x-ray films of the chest showed a 2.0 cm hilar mass. He had smoked two packages of cigarettes daily, but stopped smoking four years before admission. Bronchoscopy showed narrowing of the RLL bronchus. Biopsy revealed non-keratinizing squamous carcinoma. CAT scan of the chest and abdomen revealed mediastinal adenopathy without calcification. Mediastinoscopy with biopsy showed metastatic squamous carcinoma. The TMN classification and staging according to AJCC was T1, N2, MO: stage III. Cardiac and pulmonary tests were normal.

DIAGNOSTIC X-RAY EVALUATION AND ENDOSCOPIC STAGING PROCEDURES

Drs. McDonald and Lincoln: The accuracy of staging is crucial for the proper treatment of this patient. The staging workup should begin with a CT scan. During the intravenous infusion of the contrast materials, continuous 1 cm scans are obtained from the thoracic inlet through the liver. Contrast infusion may be administered in small boluses to supplement rapid sequence images in order to differentiate vessels from masses. The liver and adrenals are always included in this study, because lung cancers are notorious for their propensity to have metastases to liver and adrenals. Mediastinal lymph nodes greater than 1.5 cm are considered abnormal. The CT scan is reliable for demonstration of mediastinal lymph node enlargement. However, the mediastinoscopy and biopsy were necessary because 20 to 30% of mediastinal adenopathies are not caused by metastases. Mediastinoscopy has a yield of 40% for the detection of tumors. Fiberoptic bronchoscopy examination has an overall diagnostic accuracy of 85%.[1,2,3]

PATHOLOGY REVIEW

Dr. Araoz: The tissue diagnosis of pulmonary squamous cell cancer is substantiated on biopsy by the presence of at least one of three features: individual cell keratinization, pearl formation, or extensive inter-cellular bridges. Pathologists frequently disagree on the identification of poorly differentiated carcinomas.[1,4]

For the case of this discussion, three treatment options should be considered. They will be listed in order of the accumulated reported experience supporting the claims of their efficacy.

RADIOTHERAPY OPTION

Dr. Landgren: This patient should receive 6,000-6,500 rads given over a lapse of 6 to 7 weeks. The supraclavicular nodes should be treated, since they could contain microscopic metastases. Acute side effects from the radiation treatments include temporary esophagitis and skin irritation. Fibrosis of the irradiated lung could cause some shortness of breath as a long-term side effect. Radiation is reported to produce cure in 15% of patients so treated. Remission is obtained in many additional patients. After completion of the radiation treatments, about 50% of the patients will have local recurrence, and many patients will develop distant metastases.[2,5]

MEDICAL ONCOLOGY OPTION

Dr. Ross: A second modality of treatment is combination chemotherapy. Until recently the response rate for chemotherapy for non-small-cell lung cancer was uniformly poor. It now appears that the regimens including cisplatin in combination with VP-16, vindesine and/or mitomycin

*St. Vincent Infirmary Cancer Center, St. Vincent Infirmary, Two St. Vincent Circle, Little Rock, Arkansas.

can achieve a response rate of 30-40%.[6] Studies from the Eastern Cooperative Oncology Group (ECOG) indicate a complete response of 6.5% of its patients.[7] Chemotherapeutic regimens report occurrence of neutropenia and nephrotoxicity. Unfortunately, up to now these treatments have not offered a better median survival than the averages obtained with radiation treatments.

SURGERY OPTION

Dr. Lincoln: This patient should not be automatically excluded from surgical treatment. Some of the mediastinal metastases are resectable. In this patient, the location of the tumor suggests that the pulmonary lesion was also resectable. The excision of the pulmonary neoplasm and mediastinal metastasis followed by radiation therapy to supraclavicular nodes and mediastinum would produce the best chance of cure of this patient.[1,2,3]

PATIENT FOLLOW UP

This patient should be seen every three months for two years following the treatments. Tumor marker studies would be expected to be negative and should not be done.

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Arkansas Medical Society Open House and Building Dedication

Approximately 130 physicians and guests gathered June 29 for the dedication of the new Arkansas Medical Society headquarters building. The building was dedicated by Dr. Ken Lilly of Fort Smith, President of the Arkansas Medical Society. Dr. Lilly thanked the members of the Executive Committee and the Building Committee for their hard work and leadership up to the time of completion of the building.

The chairman of the Building Committee, Dr. Lloyd Langston of Pine Bluff, also spoke. Dr. Langston emphasized that the groundbreaking for the building was held on August 28, 1985 and that the building was completed and fifty percent leased eight months later. Dr. Langston thanked the members of the building committee and Mr. Rhett Tucker of Flake and Company. Tucker was the project manager and part of the development team from Flake and Company. He also recognized Worthen Bank for providing the financing for the building.

Dr. Langston asked Dr. Charles W. Logan and Dr. Joseph A. Norton, both of Little Rock, to join him at the podium. He said there were two plaques which will be affixed on either side of the front entrance of the building. The first plaque reads, "In appreciation to the physicians whose personal and financial commitment made this building possible." The second plaque lists the names of the Building Committee, Executive Committee, Staff, and others who were involved in the development and construction of the building.

The physicians listed on the first plaque recognizing their personal and financial committment to the project are: John E. Bell, M.D., Searcy; Dennis W. Berner, M.D., Russellville; Banks Blackwell, M.D., Pine Bluff; R. Kingsley Bost, M.D., Russellville; Jay O. Brainard, M.D., Little Rock; Joseph A. Buchman, M.D., Little Rock; John P. Burge, M.D., Lake Village; Joe B. Colclasure, M.D., Little Rock; Asa A. Crow, M.D., Paragould; Warren M. Douglas, M.D., Little Rock; Robert E. Elliott, M.D., Searcy; Lawson E. Glover, Jr., M.D., Little Rock; Stephen D. Holt, M.D., Little Rock; Ted Honghiran, M.D., Russellville; Raymond A. Irwin, Jr., M.D., Pine Bluff; Ralph S. Izard, Jr., M.D., Bryant; David C. Jacks,



Dr. Lloyd Langston, Pine Bluff, Chairman of the Building Committee.

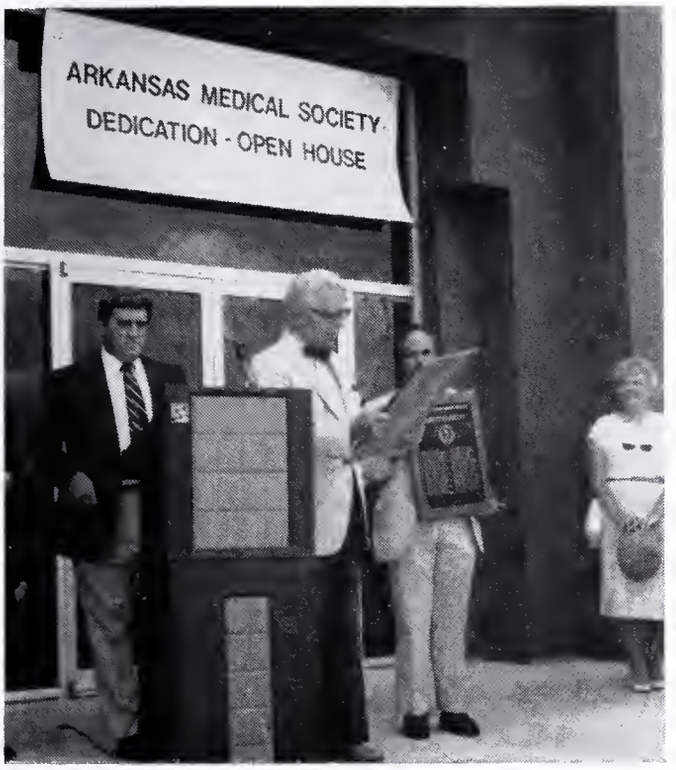
M.D., Pine Bluff; Gilbert D. Jay, III, M.D., Heber Springs; W. Ray Jouett, M.D., Little Rock; W. Payton Kolb, M.D., Little Rock; James F. Kyser, M.D., Little Rock; Lloyd G. Langston, M.D., Pine Bluff; J. Larry Lawson, M.D., Paragould; Ken E. Lilly, M.D., Fort Smith; Charles W. Logan, M.D., Little Rock; Jim E. Lytle, M.D., Batesville; Gopakumar Maruthur, M.D., Hot Springs; William R. Mashburn, M.D., Hot Springs; Edward B. Miedema, M.D., Searcy; Frank E. Morgan, M.D., North Little Rock; Joseph A. Norton, M.D., Little Rock; James J. Pappas, M.D., Little Rock; Francis M. Patton, M.D., Helena; Eldon D. Pence, Jr., M.D., Fort Smith; George V. Roberson, Jr., M.D., Pine Bluff; Charles H. Rodgers, M.D., Little Rock; Arthur E. Squire, Jr., M.D., Little Rock; Stanley D. Teeter, M.D., Russellville; Bill L. Tranum, M.D., Little Rock; James R. Weber, M.D., Jacksonville; and C. D. Williams, M.D., Little Rock. The plaque is dated April 1986.

The second plaque reads "Arkansas Medical Society Building, Completed April, 1986." Listed on the plaque are the Building Committee members: Lloyd G. Langston, M.D., Chairman, Pine Bluff; Charles W. Logan, M.D., Little Rock; and Joseph A. Norton, M.D., Little Rock. Below that are the names of the Executive Committee members: J. Larry Lawson, M.D., Chairman of the Council, Paragould; Asa A. Crow, M.D., Past President (1984-1985), Paragould; Charles F. Wilkins,

Jr., M.D., President (1984-1985), Russellville; John P. Burge, M.D., President (1985-1986), Lake Village; Ken E. Lilly, M.D., President-Elect (1985-1986), Fort Smith; and James R. Weber, M.D., Secretary, Jacksonville.

The staff listed on the plaque are: C. C. Long, M.D., Executive Vice President, Fort Smith; and Ken LaMastus, Assistant Executive Vice President, Little Rock. Also listed are Flake and Company, Developer; Blass, Chilcote, Carter and Wilcox, Architects; and Kinco, Inc., Contractor.

After the dedication and ribbon-cutting ceremony, an open house with refreshments was held in the offices occupied by the Society.



Plaques for the new building were shown by Dr. Charles W. Logan and Dr. Joseph A. Norton, members of the Building Committee.



Dr. Ken Lilly, President of the Arkansas Medical Society, cuts ribbon, officially marking the opening of the new building.

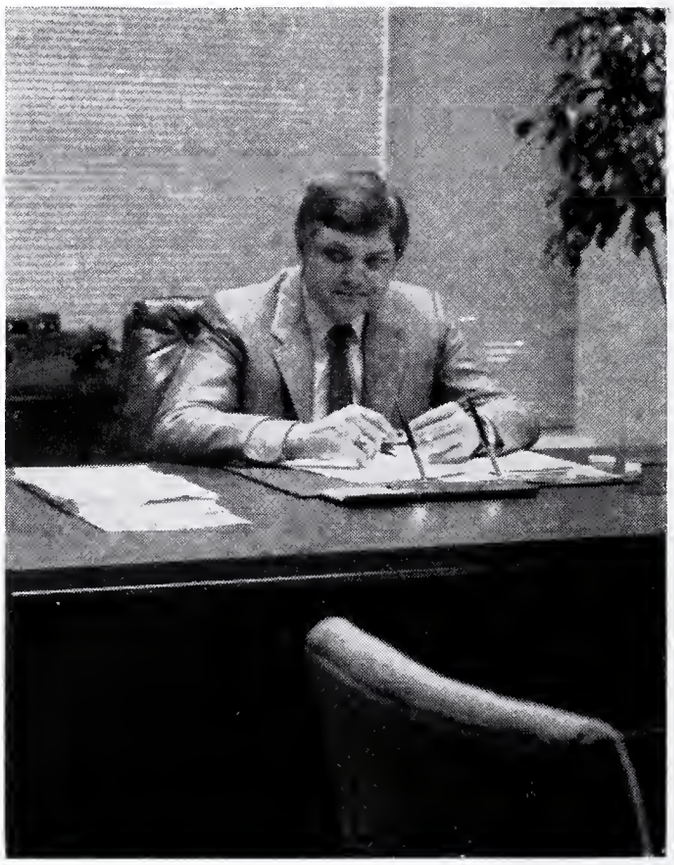


The Arkansas Medical Society headquarters building, located at #10 Corporate Hill Drive, Little Rock.

Arkansas Medical Society Staff Members



Mr. David Wroten, Assistant Executive Vice President



Mr. Ken LaMastus, Executive Vice President



Front: Karrie Findley, Receptionist; Teresa Stiles, Bookkeeper; Nadine Gentry, Specialty Desk Secretary. Back: David Wroten, Assistant Executive Vice President; Martha Taylor, Journal Secretary; Peggy Pryor Cryer, Director of Administrative Services; Barbara Pangle, Executive Secretary; Ken LaMastus, Executive Vice President.

"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

Journal of the Arkansas Medical Society
Vol. 1 No. 2 July, 1904 p. 1

A Permanent Meeting Place of the Society.

It has been suggested that the Arkansas Medical Society should meet in Little Rock all the time. It has been suggested also that the going from one place to another is conducive to growth in membership. There are good reasons for both sides of the question. In order to get the sentiment of the members, it has been thought a good idea to take a vote on the question. It is understood, however, that this vote is informal, and is not binding, neither significant, only that the voice of the membership may be known. It has been requested that the Secretary ask that the various societies take a "straw vote" on the matter, and report the result to the Secretary, and that he publish the same in the Bulletin. If the county societies will do this, the Secretary will take pleasure in letting the result be known in the Bulletin as the vote of the different societies comes in.

Will Arkansas County take the first vote? It is the first on the list. C. C. S.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

UNUSUAL ASPECTS OF INFECTIOUS DISEASES

Presented by Andrew Margileth, M.D., Bethesda, Maryland, *October 3, 5:00 p.m.-9:30 p.m.* Holiday Inn, I-30 and State Line, Texarkana. 3 hours Category I credit. Fee: $15.00. Sponsored AHEC-Southwest, Texarkana.

COAGULASE NEGATIVE STAPHYLOCOCCI: AN EMERGING PATHOGEN

Presented by Temple Williams, M.D., Baylor University; Michael R. Pertracek, M.D., Nashville, Tennessee; and Charles W. Stratton, IV, M.D., Vanderbilt University School of Medicine, *October 18, 8:30 a.m.-12:00 noon.* Baptist Medical Center Shuffield Auditorium. 3 hours Category I credit. Sponsored by the Baptist Medical Center.

UROLOGICAL UPDATE/ARKANSAS UROLOGICAL SOCIETY FALL SCIENTIFIC MEETING

Presented by John F. Redman, M.D., *October 18, 8:00 a.m.-11:00 a.m. and October 19, 9:00 a.m.-12:00 noon.* Red Apple Inn, Heber Springs. 6 hours Category credit. Fee: $150.00. Sponsored by the UAMS Office of Continuing Education for Physicians.

TREATMENT OF ACUTE CHEMICAL EXPOSURE

Presented by George Woods, M.D., Memphis, Tennessee, *October 25, Time to be Announced.* Baptist Medical Center Shuffield Auditorium. 6 hours Category I credit. Sponsored by the Baptist Medical Center.

BETA II STRESS HYPOKALEMIA

Presented by George Ackerman, M.D., *October 30, 12:00 noon.* Sparks Regional Medical Center, 7th Floor Dining Room. Sponsored by AHEC Fort Smith, Family Practice Residency Program.

PSYCHONEUROIMMUNOLOGY: THE SEARCH FOR THE HEALER WITHIN

Presented by Frederick G. Guggenheim, M.D. and Robert B. Doyle, Ph.D., *October 31, 6:00 p.m.-7:30 p.m. and November 1, 8:00 a.m.-6:30 p.m.* UAMS Education Building, Room G/141A, Little Rock. 9.25 hours Category I credit. Fee: UAMS staff and Biofeedback Society members—$50.00; Students—$30.00; Others—$60.00. Spon-

sored by the UAMS Office of Continuing Education for Physicians.

CEREBROVASCULAR DISEASE

Presented by AHEC-Northwest, *November 1, 8:00 a.m.-11:00 a.m.* Washington Regional Medical Center, Baker Conference Room, Fayetteville, Arkansas. 3 hours Category I credit. Fee: $15.00. Sponsored by AHEC-Northwest.

ONCOLOGY SEMINAR

November 8, 9:00 a.m.-12:00 noon. Pain control in infectious disease and AIDS will be discussed. Baptist Medical Center Library. 3 hours Category I credit. Sponsored by the Baptist Medical Center.

PSYCHIATRY SEMINAR

Presented by Charles Kelso Billings, Jr., M.D., Alton Ochsner Medical Foundation; Richard Shelton, M.D., Vanderbilt University; and Charles V. Ford, UAMS, *November 8, 9:00 a.m.-12:00 noon.* Baptist Medical Center Shulfield Auditorium. 3 hours Category I credit. Sponsored by the Baptist Medical Center.

THIRD ANNUAL CONFERENCE ON PERINATAL CARE

Presented by Frank Miller, M.D.; Glenna Roberts, R.N.P.; and Julie West, R.N.C., *November 13, 8:00 a.m.-5:00 p.m. and November 14, 8:00 a.m.-4:00 p.m.* University Conference Center, Statehouse Plaza, Little Rock. 11.75 hours Category I credit. Fee: Physicians—$65.00; Nurses—$30.00. Sponsored by the UAMS Office of Continuing Education for Physicians.

MANAGEMENT OF ACUTE MI

Presented by AHEC-Northwest, *November 18, 7:00 p.m.* Washington Regional Medical Center, Baker Conference Room, Fayetteville. One hour Category I credit. Sponsored by AHEC-Northwest.

CHEST CONFERENCE — EMPHYSEMA

Presented by Joe Nicholson, M.D., *November 19, 12:30* luncheon. St. Michael Hospital, Texarkana. 1 hour Category I credit. Sponsored by AHEC-Southwest, Texarkana.

PSYCHIATRY UPDATE 1986

Presented by G. Richard Smith, M.D., *November 21-23, Time to be announced.* Excelsior Hotel, Little Rock. Category I credit to be announced. Fee to be announced. Sponsored by the UAMS Office of Continuing Education for Physicians.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

EL DORADO — AHEC

Behavioral Sciences Conference, first and fourth Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:00 p.m., Warner Brown Hospital.
Gynecology-Pathology Conference, second Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Pathology Conference, second Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Obstetrics-Gynecology Conference, fourth Thursday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Surgical Conference, first, second, and third Monday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Tumor Clinic, fourth Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.

FAYETTEVILLE — AHEC-NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Chest Conference, second Wednesday, 11:30 a.m., VAMC.
Pathology-Mortality Conference, third Wednesday, 11:30 a.m., VAMC.
Radiology Conference, fourth Wednesday, 11:30 a.m., VAMC.

FORT SMITH — AHEC

Cardiology Conference, first Wednesday, 12:00 noon, Sparks Regional Medical Center.
Dermatology Conference, first Thursday, 12:00 noon, Sparks Regional Medical Center, Library.
Family Practice Conference, last Wednesday, 12:00 noon, Sparks Regional Medical Center, Library.
Gastroenterology Conference, first Friday, 12:00 noon, Sparks Regional Medical Center, Library.
Neurology Conference, second Thursday, 12:00 noon, Sparks Regional Medical Center.
Obstetrical/Gynecology Conference, third Thursday, 12:00 noon, Sparks Regional Medical Center, Library.
Pediatric Conference, third Wednesday, 12:00 noon, Sparks Library.
Thoracic/Cardiovascular Conference, third Thursday, 12:00 noon, Sparks Regional Medical Center, Library.

JONESBORO — AHEC-NORTHEAST

AHEC Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.
Chest Conference, fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Interesting Case Conference, second and fifth Tuesday, when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Cafeteria, Methodist Hospital of Jonesboro.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

General Pediatrics Seminar, each Friday, 12:00 noon, Second Floor Classroom.
Genetics Conference, each Wednesday, 1:00 p.m., Annex Conference Room.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Neuro/Oncology Conference, third Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Pediatric Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pediatric Neuroscience Conference, first Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Pharmacology Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Radiology Conference, second and fourth Monday, 12:00 noon, Second Floor Classroom.
Pediatric Research Conference, third Monday, 12:00 noon, Second Floor Classroom.
Pulmonary Conference, second and third Monday, 3:00 p.m., Second Floor Classroom.
Problem Case Conference, each Thursday, 12:00 noon, Second Floor Classroom.
Renal-Cardiology Conference, second Tuesday, 12:00 noon, Second Floor Classroom.

LITTLE ROCK — ST. VINCENT INFIRMARY

Cancer Conference, first Wednesday, 12:00 noon-1:00 p.m., CARTI Auditorium. A meal is provided.
Cancer Conference, third and fourth Thursday, 12:00 noon-1:00 p.m., Room S1174K, Laboratory. A meal is provided.
General Medicine Journal Club, first and third Tuesday, 12:00 noon-1:00 p.m., Medical Affairs Conference Room. Bring your lunch.
Hematology-Oncology Conference, second Thursday, 12:00 noon-1:00 p.m., Laboratory Library. A meal is provided.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m.-6:30 p.m., Classroom 1, Education Wing. Refreshments are provided.
Neuropathology Conference, third Tuesday, 5:00 p.m.-6:00 p.m., Room S1174K, Laboratory. Refreshments are provided.
Pediatric Conference, first Tuesday, 12:30 p.m.-1:30 p.m., Classroom 1, Education Wing. A meal is provided.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m.-7:00 p.m., Classroom 1, Education Wing. A meal is provided.
Pulmonary Conference, second and fourth Wednesday, 12:00 noon-1:00 p.m., Classroom 1, Education Wing. A meal is provided.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Anesthesia Lecture Series, each Tuesday, 7:00 a.m.; each Wednesday, 1:00 p.m., UAMS Education Building, Room G/106.
Anesthesia Morbidity and Mortality Conference, each Thursday, 4:00 p.m., UAMS Education Building, Room G/106.
Interdisciplinary Gynecologic Cancer Conference, each Friday, 12:30 p.m., UAMS Education Building, Room G106A&B.
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.
OB/Gyn Grand Rounds, each Wednesday, 7:30 a.m., UAMS Education Building, Room G/141B.
Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m., UAMS AAC Eye Clinic, Room 3/150. 2 hours credit.
Orthopaedic Fracture Conference, each Tuesday, 7:30 a.m., UAMS Education Building, Room B/135.
Orthopaedic Bibliography Conference, each Tuesday, 8:30 a.m., UAMS Education Building, Room B/135. 1½ hours credit.
Orthopaedic Grand Rounds, each Tuesday, 10:00 a.m., UAMS Education Building, Room B/135.
Psychiatry Grand Rounds, each Friday, 11:00 a.m., UAMS Shorey Auditorium.
St. Vincent Urology Grand Rounds, first Tuesday, 5:30 p.m., St. Vincent Infirmary, Education Building, Room 159.
Urology Grand Rounds/Urologic Topics, two to three times monthly (each), 5:00 p.m., UAMS or VAMC.
Urology Morbidity and Mortality Workshop/Uro-Radiology Workshop, once monthly, 5:00 p.m., UAMS (dates vary).
VA Medical Service Teaching Conference, each Thursday, 8:00 a.m., NLRVA, Building 66, Room 38.
VA Surgery Grand Rounds, each Thursday, 12:45 p.m., LRVA, Room 2D109.
VA Weekly Cancer Conference, (Surgical Service), each Tuesday, 1:00 p.m., LRVA, Room 2D109.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Anesthesiology Conference, third Thursday, 7:00 a.m.-8:00 a.m., Conference Room 1.

Grand Rounds, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room 1. Lectures and Case Presentations. A light lunch will be served.
Pathology Conference, third Tuesday, 3:00 p.m. to 4:00 p.m., Pathology Library, Case Presentations.
Pulmonary Conference, each Tuesday, 12:00 noon, Shuffield Auditorium. Lunch served for $1.75.
Surgery Conference, each Thursday, 7:30 a.m., Conference Room 2. Lectures and Case Presentations.

PINE BLUFF — AHEC

Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC

Nephrology Conference, fourth Tuesday, 7:00 a.m. breakfast, St. Michael Hospital, 315 East Fifth Street, Texarkana.
Neuro-Radiology Conference, second and fourth Wednesday, 7:00 a.m. breakfast, Wadley Regional Medical Center, 1000 Pine Street, Texarkana.
Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.

As organizations accredited for continuing medical education by the Accrediation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.



THINGS TO COME



October 17

The Ethical Dilemma, Limited Resources — Difficult Decisions. Sponsored by the Boone Hospital Center. Columbia, Missouri. 6 hours Category I credit. Fee: Physicians—$70.00; Other disciplines—$50.00; Students—Half-price. For more information contact: Boone Hospital Center Affiliated Services, Columbia, Missouri; (314) 875-3712.

October 17

American Cancer Society: Pediatric Oncology Symposium. Sponsored by the University of Kansas Medical Center. Battenfeld Auditorium, University of Kansas Medical Center. AMA Category I, AAFP, CNE, SW and PT credit available. For more information contact: Carole Rosen, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Boulevard, Kansas City, Kansas 66103; (913) 588-4480.

October 17-18

Alternative Delivery Systems: Strategies for Physician Control. Sponsored by the American Society of Internal Medicine (ASIM). Marriott Crystal Gateway Hotel, Washington, D. C. 10½ hours CME Category I credit available. Registration fee: $350 for ASIM members; $425 for nonmembers. For more information contact: Teresa Crumpler, ASIM (202) 289-1700.

October 17-19

Current Advances in Pediatrics. Sponsored by the Orange County Pediatric Society/California Chapter 4 and the American Academy of Pediatrics. Disneyland Hotel, Anaheim, California. For further information contact: OCPS/California Chapter 4, AAP, Post Office Box 1297, Orange, California 92668.

October 17-19

Assessment of Arteries and Veins by Duplex Ultrasound. Sponsored by Temple University and the Institute for Medical Studies. New Orleans, Louisiana. Application has been submitted for 18 hours of CME Category I credit. Fee: $395. For more information contact: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center

Drive, Suite 215, Laguna Niguel, California 92677; (714) 495-4499.

October 21-22

Medicine and Religion: Ethics of Sexuality and Reproduction. Sponsored by the University of Kansas Medical Center. Battenfeld Auditorium, University of Kansas Medical Center. AMA Category 1, AAFP, SW and CNE credit available. For more information contact: Carole Rosen, University of Kansas Medical Center, Office of Continuing Education, 39th and Rainbow Boulevard, Kansas City, Kansas 66103; (913) 588-4480.

October 23-24

Prevention, Recognition and Treatment of Agrichemical Related Exposure Conference. Co-sponsored by Texas Tech University Health Sciences Center and the National Agricultural Chemicals Association. Hilton Palacio Del Rio, San Antonio, Texas. Nine Category I hours for physicians. 1.1 CEU's for nurses. For further information contact: Betsy S. Buchan, National Agricultural Chemicals Association, 1155 15th Street, N.W., 9th Floor, Washington, D. C. 20005; telephone (202) 296-1585.

October 23-24

ACP and ASIM Arkansas Regional Meeting. Sponsored by the American College of Physicians, Arkansas Chapter, in association with the Arkansas Society of Internal Medicine. Sheraton Hot Springs Lakeshore Resort, Hot Springs. 9 Category I Credit hours available. Fee: ACP Masters, Fellows, Members/ASIM members, $50.00; ACP Associates, Exempt; Non-members, $100.00. For more information contact: Joe B. Hall, M.D., 675 Lollar Lane, Fayetteville, Arkansas; (501) 521-8200.

October 24-25

Great Midwestern Shootout at the U.K. Corral (A Workshop on Total Hip and Total Knee Replacement). Sponsored by the University of Kentucky, Lexington. Radisson Plaza Hotel, Lexington, Kentucky. CME credit available. For more information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, Kentucky; (606) 233-5161.

October 24-25

Emergency Respiratory Care. Sponsored by the University of Kansas Medical Center. Doubletree Hotel, Overland Park, Kansas. AMA Category I, CME, AART, CRNA, CNE, MICT and PT credit available. For more information contact: Carole Rosen, University of Kansas Medical Center, Office of Continuing Education, 39th and Rainbow Boulevard, Kansas City, Kansas 66103; (913) 588-4180.

October 24-26

1986 Self-Psychology Conference: Clinical Advances in Self-Psychology. Sponsored by the Office of Continuing Medical Education, University of California San Diego School of Medicine. Vacation Village Resort, San Diego, California. Fee: $275, physicians; $175, allied health professionals; $125, full-time non-practicing students. Up to 17 hours CME Category I credit available. For further information contact: Office of Continuing Medical Education, M-017, University of California San Diego School of Medicine, La Jolla, California 92093; (619) 534-3940 or (619) 452-3940.

October 26-31

Seventeenth Family Medicine Review. Sponsored by the University of Kentucky, Lexington. Hyatt Regency Hotel, Lexington, Kentucky. CME credit available. For more information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, Kentucky; (606) 233-5161.

October 27-31

Postgraduate Institute for Emergency and Primary Care Physicians, Symposia I, II, and III, and Optional Advanced Emergency Procedures Laboratory. San Diego, California. ER I—January 12-16, 1987; and May 4-8, 1987. ER II—December 8-12, 1986; March 16-20, 1987; and August 17-21, 1987. ER III—October 27-31, 1986; June 22-26, 1987. For brochure and more information contact: Office of Continuing Medical Education, University of California San Diego School of Medicine, M-017, La Jolla, California 92093; (619) 452-3940.

October 30-November 1

Noninvasive Vascular Diagnostic Techniques. Sponsored by Temple University and the Institute for Medical Studies. Washington, D. C. Application has been submitted for 18 hours of Category 1 credit. Fee: $395. For more information contact: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Laguna Niguel, California 92677; (714) 495-4499.

November 3-7

Diagnostic Radiology Seminars. Sponsored by the University of California, San Francisco. Maui Marriott Resort, Maui, Hawaii. 24 hours Category I credit. Fee: $495 for physicians; $395 for residents, fellows, technologists and nurses with a letter of verification. For program information, call Radiology Postgraduate Education, University of California (415) 476-5731; for travel information, call Travel Planners, Inc., San Antonio, TX (512) 341-8131.

November 8-9

Transurethral Ureteroscopy: A Seminar and Workshop. Sponsored by the Office of Continuing Medical Education, University of California San Diego School of Medicine. La Jolla Marriott, San Diego, California. 13 CME Category I Credit hours. Fee: $375. For further information contact: Office of Continuing Medical Education, M-017, University of California San Diego School of Medicine, La Jolla, California 92093; (619) 534-3940 or (619) 452-3940.

November 10-14

Annual Conference on Occupational Health. Sponsored by the American Academy of Occupational Medicine. Hyatt Regency on Capitol Hill, Washington, D. C. CME Category I credit on an hour-by-hour basis. For more information contact: American Academy of Occupational Medicine, 2340 S. Arlington Heights Road, Suite 400, Arlington Heights, Illinois; (312) 228-6850.

December 3-7

Ear, Nose and Throat Diseases in Children: A 1986 Update. Sponsored by the Department of Otolaryngology and Pediatrics, Children's Hospital of Pittsburgh. The Breakers, Palm Beach, Florida. 17 CME Category I credit hours. Fee: $275 for physicians; $200 for residents. For further information contact: Department of Otolaryngology, Children's Hospital of Pittsburgh, 125 De Soto Street, Pittsburgh, Pennsylvania 15213; (412) 647-6215.

December 14

Antarctic Medical Seminars. The Lecture Room of the ship M. S. Society Explorer. Depart and return to Miami, Florida. Sponsored by International Medical Seminars. Itinerary will be Punta Arenas, Chile, Strait of Magellan, Beagle Channel, Cape Horn, Drake Passage, Antarctic Peninsula, Falkland Islands, and South Georgia. 25 hours CME Category I credit. Additional cruise dates: January 9, 1987 and January 30, 1987. Fee for medical seminar tuition is $400. For additional information contact: International Medical Seminars, 125 Main Street, Westport, Connecticut 06880; (203) 222-0560 or 1-800-551-0019.



PERSONAL AND NEWS ITEMS

WARREN RECEIVES CANCER SOCIETY AWARD

George Warren, M.D., of Smackover, was chosen as the Division Medical Volunteer of the Year by the Arkansas Division of the American Cancer Society. Warren has been president of the Union County Cancer Society Board for the past ten years.

STRESS MANAGEMENT TOPIC FOR MARTINDALE

Joe Martindale, M.D., spoke recently to the Saline County Legal Secretaries' Association about stress management. The Benton physician spoke during the meeting which was held at the offices of Boswell, Tucker and Smith in Bryant.

BRADFORD PROCLAIMS BERNARD SMITH WEEK

Bernard Smith, M.D., of Bradford was recently honored with a week bearing his name. Bradford's mayor, McKinley Goad, proclaimed the week "Dr. Bernard Smith Appreciation Week" and a dinner in Smith's honor was also held. Smith has been practicing in Bradford for 35 years.

STUTTGART HOSPITAL STAFF ELECTS NEW OFFICERS

Jack Pritchard, M.D. has been named the chief

of staff of Stuttgart Memorial Hospital for 1986-87. He has been a member of the hospital's medical staff for 28 years. James Clay Wellborn, M.D. was elected vice chief of staff and Dennis Yelvington, M.D. is the new secretary-treasurer.

HARRIS SPEAKER FOR MANIC DEPRESSIVE ASSOCIATION MEETING

North Little Rock physician, Stuart Harris, M.D., spoke recently to the National Depressive and Manic Depressive Association convention. The meeting was held at the Excelsior Hotel in Little Rock. Dr. Harris is the medical director of BridgeWay, a psychiatric hospital.

BRADLEY BEGINS PRACTICE IN LITTLE ROCK

Joe F. Bradley, M.D. of Little Rock, formerly of Fort Smith, recently announced his affiliation with the Family Life Clinic in Little Rock. Dr. Bradley specializes in adult psychiatry and had a private practice in Fort Smith with the Baker Psychiatric Clinic, P.A.

BAKER NAMED ACTING DEAN

It was recently announced that Glen F. Baker, M.D., has been named acting dean of the UAMS College of Medicine. Baker has been a member of the faculty at the university for 20 years and assumes the position held by Peter O. Kohler, M.D.



NEW MEMBERS

The Craighead-Poinsett Medical Society has three new members:

DR. JAMES WARREN CONN

Dr. James Warren Conn is a board certified Psychiatrist practicing at 818 Cobb Street, Jonesboro. Dr. Conn received his pre-medical education from Temple University, graduating with a B.A. degree in 1971. His medical degree and education was obtained from New Jersey Medical School. His internship in Psychiatry was at the Albert Einstein Medical Center in Philadelphia and his residency, also in Psychiatry, at the Hospital of the University of Pennsylvania.

Dr. Conn was in the U. S. Air Force from 1961-64. He was the in-patient unit director for the Fairmount Institute in Philadelphia from 1981-84, and the staff psychiatrist at the George W. Jackson Community Mental Health Center in Jonesboro from 1984-86. He also was an instructor in the Department of Psychiatry at the Medical School of the University of Pennsylvania.

DR. EARL W. MONTGOMERY

Dr. Montgomery is an Obstetrician/Gynecologist and will be practicing at 505 East Matthews, Jonesboro, Arkansas. An Auburn, Kentucky native, Dr. Montgomery received his B.S. degree from Western Kentucky University in 1972 and his M.D. from the University of Kentucky in 1986. His internship and residency were spent at St. Mary's Medical Center, Evansville, Indiana in affiliation with the Indiana University School of Medicine in Indianapolis. Dr. Montgomery is board eligible.

Dr. Montgomery was in the U. S. Navy from 1977 to 1981 and was involved in Aviation Medicine. He did a tour of Guam and the Pacific before returning to Memphis, Tennessee. He was a clinical instructor in the Department of Obstetrics and Gynecology at the University of Arkansas for Medical Sciences.

DR. FULVIA S. RODRIQUEZ-CONN

Dr. Fulvia S. Rodriquez-Conn will be practicing Psychiatry in Jonesboro. A native of Puerto Rico, she earned her Bachelor of Science degree at the University of Puerto Rico in 1974 and her medical degree in 1978 from the University of Puerto Rico Medical School. Dr. Rodriquez-Conn served her internship and residency in Psychiatry at the Hospital of the University of Pennsylvania.

Dr. Rodriquez-Conn practiced at the John F. Kennedy Community Mental Health Center and the Thomas Jefferson University Hospital in

Philadelphia. She was an instructor at the University of Pennsylvania in the Department of Psychiatry from 1978-82 and an instructor at the Thomas Jefferson Medical College from 1983-84. She also was the medical director of the John F. Kennedy Community Mental Health Center satellite clinic. Dr. Rodriquez-Conn is board certified in Psychiatry and Neurology and will have a private practice at 818 Cobb Street, Jonesboro.

DR. ROBERT M. RIDOUT, JR.

Dr. Robert M. Ridout, Jr., is the new member of the Miller County Medical Society. Dr. Ridout, a Port Arthur, Texas native, received his premedical education from Lamar University in Beaumont, Texas. He graduated from the University of Texas Southwestern Medical School in Dallas in 1980. His residency in Pathology was spent at Parkland Memorial Hospital in Dallas.

Dr. Ridout is board eligible in Pathology and will be practicing at 912 Olive Street, Texarkana, Texas.

DR. L. C. SAMMONS, JR.

The newest member of the Mississippi County Medical Society is Dr. L. C. Sammons, Jr. Dr. Sammons specializes in Family Practice and will be practicing at the Fairley Clinic, 616 West Lee, Osceola. Dr. Sammons graduated in 1950 from the University of Mississippi and received his medical degree in 1960 from the University of Tennessee Healthplex Family Practice Program at Baptist Memorial Hospital in Memphis. He also served in the U. S. Army from 1944 to 1945.

Dr. Sammons has had a family and general practice for 24 years in Memphis. He taught at the University of Tennessee as an associate clinical professor and is a board certified fellow of the American Academy of Family Physicians.

DR. MAX ROBERT BOONE

The Ouachita County Medical Society's newest member is Dr. Max Robert Boone. Dr. Boone, a San Antonio native, received his Bachelor of Science degree from the University of Arizona in 1979. In 1983, he received his medical degree from the University of Arizona. Dr. Boone's internship and residency in Family Practice was served with the St. Joseph's Hospital and Medical Center Program in Phoenix.

Dr. Boone is board eligible and a member of the American Academy of Family Physicians. He will be practicing at the Bearden Health Center, Post Office Box 198, Bearden.

DR. GARY DEAN MYERS

Dr. Gary Dean Myers is the Pope County Medical Society's new member. Dr. Myers is a specialist in General Surgery. He was graduated from the University of Oklahoma in 1976 with a bachelor of science degree. In 1980, he received his M.D. from the same institution. His internship and residency were in General Surgery with the University of Oklahoma Medical Program.

Dr. Myers has practiced for five years at the University of Oklahoma, Department of Surgery. He also had a Vascular Fellowship at the Ochsner Medical Foundation in New Orleans. Dr. Myers will be practicing at the Millard-Henry Clinic, 3105 West Main Place in Russellville.

The Pulaski County Medical Society had nine new members:

DR. DAVID NEAL COLLINS

Dr. David Neal Collins, a Columbia, Missouri native, received his B.A. degree from Westmar College in LeMars, Iowa in 1974. He attended and was graduated from the University of Iowa, Iowa City, in 1979. Dr. Collins' internships and residencies were spent at the University of Arkansas for Medical Sciences in Orthopedic Surgery.

Dr. Collins is currently practicing at the John McClellan V. A. Hospital. He also practiced at Washington Regional Medical Center in Fayetteville and St. Mary's Hospital in Rogers.

Dr. Collins is board eligible in Orthopedic Surgery. Dr. Collins' office address is 4301 West Markham, Slot 531, Little Rock.

DR. MARK ROTHWELL GIBBS

Dr. Mark Rothwell Gibbs received his premedical education from Baylor University, Waco, Texas, in 1977. He was graduated with a Bachelor of Science degree in biology. His medical degree was from the University of Arkansas for Medical Sciences. Dr. Gibbs' internship in General Surgery was spent at the Baylor University Medical Center and his residency was at the Truman Medical Center in Kansas City, Missouri in conjunction with the University of Missouri, Kansas City School of Medicine.

Dr. Gibbs is board eligible and he will be practicing General Surgery at 320 Doctor's Park Building in Little Rock.

DR. HERBERT LEONARD HAHN

Dr. Herbert Leonard Hahn specializes in Orthopaedic Surgery and will be practicing at #1 St. Vincent Circle, Little Rock. Dr. Hahn received his Bachelor of Science degree in Chemistry from Stanford University in 1975. His medical degree is from Baylor University.

Dr. Hahn's internship in Surgery was served at the University of Texas at Houston affiliated hospitals and his residency in Orthopaedic Surgery was with the Baylor College of Medicine Program in affiliated hospitals. Dr. Hahn practiced one year at the Veterans Administration Hospital in Houston.

DR. RICHARD LEE LIVINGSTON

Dr. Richard Lee Livingston's specialty is Child Psychiatry. Dr. Livingston, a Pampa, Texas native, attended and was graduated from Hendrix College in Conway and his medical degree was obtained at the University of Arkansas for Medical Sciences. He graduated in 1978.

Dr. Livingston's residency in Psychiatry was at Barnes Hospital, a part of the Washington University program in St. Louis. His internship in Psychiatry and Child Psychiatry was served at the University of Arkansas for Medical Sciences. He is board certified in Psychiatry and Neurology.

Dr. Livingston is currently practicing at the University of Arkansas for Medical Sciences Child Study Center, 4301 West Markham, Little Rock.

DR. PETER MICHAEL MARVIN

Dr. Peter Michael Marvin, is a specialist in Pulmonary Medicine and will be practicing at 2000 Fendley Drive, North Little Rock. Dr. Marvin attended Brown University in Providence, Rhode Island and received his Bachelor of Art degree in 1969. He then attended the University of Arkansas for Medical Sciences, receiving his medical degree in 1977.

Dr. Marvin's internship and residency in Internal Medicine were spent at the University of Arkansas for Medical Sciences. He also had a Fellowship at the same institution in Pulmonary Medicine.

Dr. Marvin is board certified by the American Board of Internal Medicine.

DR. GAIL ANN McCRACKEN

Dr. Gail Ann McCracken, a Little Rock native, attended the University of Arkansas, Fayetteville, receiving her B.S. in zoology in 1976. She graduated from the University of Arkansas for Medical Sciences in 1981. Her internship and residency were spent at the University of Arkansas for Medical Sciences in Internal Medicine and Pulmonary Medicine.

Dr. McCracken is board certified in Internal Medicine and will be practicing Pulmonary Medicine at the Freeway Medical Center, Suite 610, 5800 West 10th Street, Little Rock.

DR. VALERIE McNEE

Dr. Valerie McNee, specializing in Cardiology, will be practicing at 2001 West Pershing, North Little Rock. Dr. McNee, a Slaten, Texas native, was graduated in 1973 from Washburn University in Topeka. Her medical degree is from the University of Arkansas for Medical Sciences. She graduated in 1980.

Dr. McNee served her internship in Internal Medicine and her residency in Cardiology at the University of Arkansas for Medical Sciences. She is board certified in Internal Medicine.

DR. JON KIRBY NEWSUM

Dr. Newsum, a native of Fort Smith, is specializing in Anesthesiology. He graduated from the University of Arkansas, Fayetteville, in 1966. He attended the University of Arkansas for Medical Sciences for his medical education, graduating in 1970. His internship was at the U. S. Naval Hospital in San Diego. His residency in Anesthesiology was spent at the Shands Hospital at the University of Florida and in Pediatric Anesthesiology at Children's Hospital Medical Center in Boston, Massachusetts.

Dr. Newsum was in general practice at the Millard-Henry Clinic in Russellville and the staff anesthesiologist at the All Children's Hospital in St. Petersburg, Florida; and the Arkansas Children's Hospital in Little Rock.

Dr. Newsum is board certified in Anesthesiology and he is currently the Staff Anesthesiologist at St. Vincent Infirmary. His office is at 500 South University, Suite 505, Little Rock.

DR. SAMUEL BRADLEY WELCH

Dr. Samuel Bradley Welch is an Otolaryngologist in Little Rock. He attended Hendrix College in Conway, receiving his Bachelor of Science degree in 1973. He received his M.C.S. degree in Pathology in 1975 and his Ph.D. in Human Anat-

omy in 1979 from the University of Mississippi in Jackson. In 1981, he received his medical degree from the same institution.

Dr. Welch's internship and residencies were at the University of Arkansas for Medical Sciences in Surgery and Otolaryngology. He is board certified by the American Board of Otolaryngology and board eligible in Head and Neck Surgery.

Dr. Welch's office is located at 500 South University, Suite 321, Little Rock.





OBITUARY

DR. T. P. HARPER

Dr. Thomas P. Harper, 99, of Monette, died Wednesday, July 23, 1986. Dr. Harper had practiced medicine in northeast Arkansas for 60 years, the last 39 years in Monette. Dr. Harper practiced with his son, Dr. B. R. Harper from 1947 until 1976 when he retired. He would have been 100-years-old September 25.

A native of Maynard, he graduated from the University of Arkansas Medical School in 1913 and began practice in Peach Orchard. Dr. Harper was a Life member of the Arkansas Medical Society and a member of the Craighead-Poinsett County Medical Society. He was a 33rd degree Mason.

Survivors include his son, Dr. B. R. Harper of Monette; two daughters, Berince Baker of North Little Rock and Mrs. Muriel Dryer of Blytheville. Dr. Harper had six grandchildren and nine great-grandchildren.

DR. ALAN GARNER CAZORT

Dr. Alan Garner Cazort, aged 86, of Little Rock, died August 14, 1986. Dr. Cazort was the first physician to specialize in allergic disease in Arkansas.

Dr. Cazort was born in Lamar (Johnson County) and graduated from Hendrix College in 1922. He received his medical degree from the University of Arkansas for Medical Sciences in 1928. Dr. Cazort was the first professor to teach allergic disease at the University.

Dr. Cazort was a member and past president of the Pulaski County Medical Society as well as a Life Member of the Arkansas Medical Society. He was also an executive board member of the American Academy of Allergies. In 1963, he received the Distinguished Service Award from the University of Arkansas for Medical Sciences and in 1973, the Alan G. Cazort Allergy Society of Arkansas was organized.

Survivors are his four daughters, Virginia Cazort of Brookline, Massachusetts; Cecile Cazort Zorach of Lancaster, Pennsylvania; Jean Cazort Cockcroft of Little Rock; and Mimi Cazort of Ottawa, Ontario, Canada. Dr. Cazort's wife, Mary Carpenter, died in 1984.



October 1986

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SPECIAL IN THIS ISSUE

Clinically Diagnosed Brown Recluse Spider Bites 199
Psychological Aspects of Coronary Artery Disease 205

FEATURES

Chlamydia Trachomatis at the UA, Fayetteville 217
Health Fraud in Arkansas 221

CANCER MANAGEMENT PROBLEMS

Prostate Cancer 224

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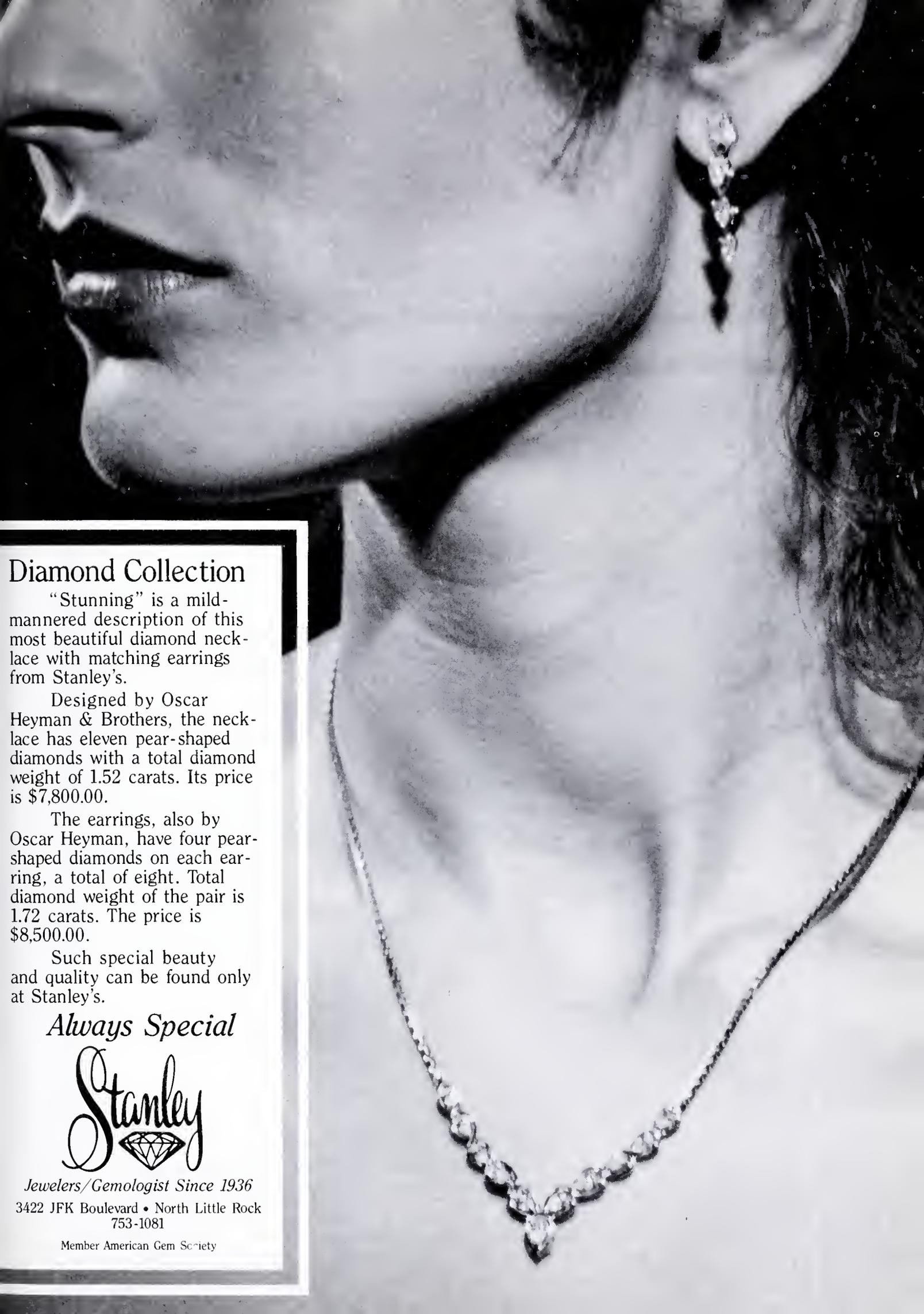
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SCIENTIFIC ARTICLES

Treatment of Clinically Diagnosed Recluse Spider Bites with Hyperbaric Oxygen: A Clinical Observation 199
Fred J. Svendsen, M.D.

Psychological Aspects of Coronary Artery Disease 205

Incidence of Chlamydia Trachomatis in the Female Student Population at the U of A, Fayetteville 217
Kent Estes, M(ASCP), MS
Shirley Robertson, MT(AMT),
Jan Sanders, CLA(ASCP), and
R. Douglas Vanderpool, MA

FEATURES

ECG of the Month 220

Public Health at a Glance: "Health Fraud in Arkansas" 221
Don Phillips, P.D., MPA

Cancer Management Problems: "Prostate Cancer" 224
Troy F. Barnett, M.D.,
Dan P. Chisholm, M.D.,
D. R. Harris, M.D.,
W. Ducote Haynes, M.D..
Fernando Padilla, M.D., and
Don I. Scott, M.D.

Guest Editorial: "Arkansas Medical Society Resident Physician Section 226
Todd N. Holt, M.D.

From Other Years 227

Medicine in the News 229

Keeping Up 231

Things To Come 234

Personal and News Items 236

New Members 237

Resolution 239

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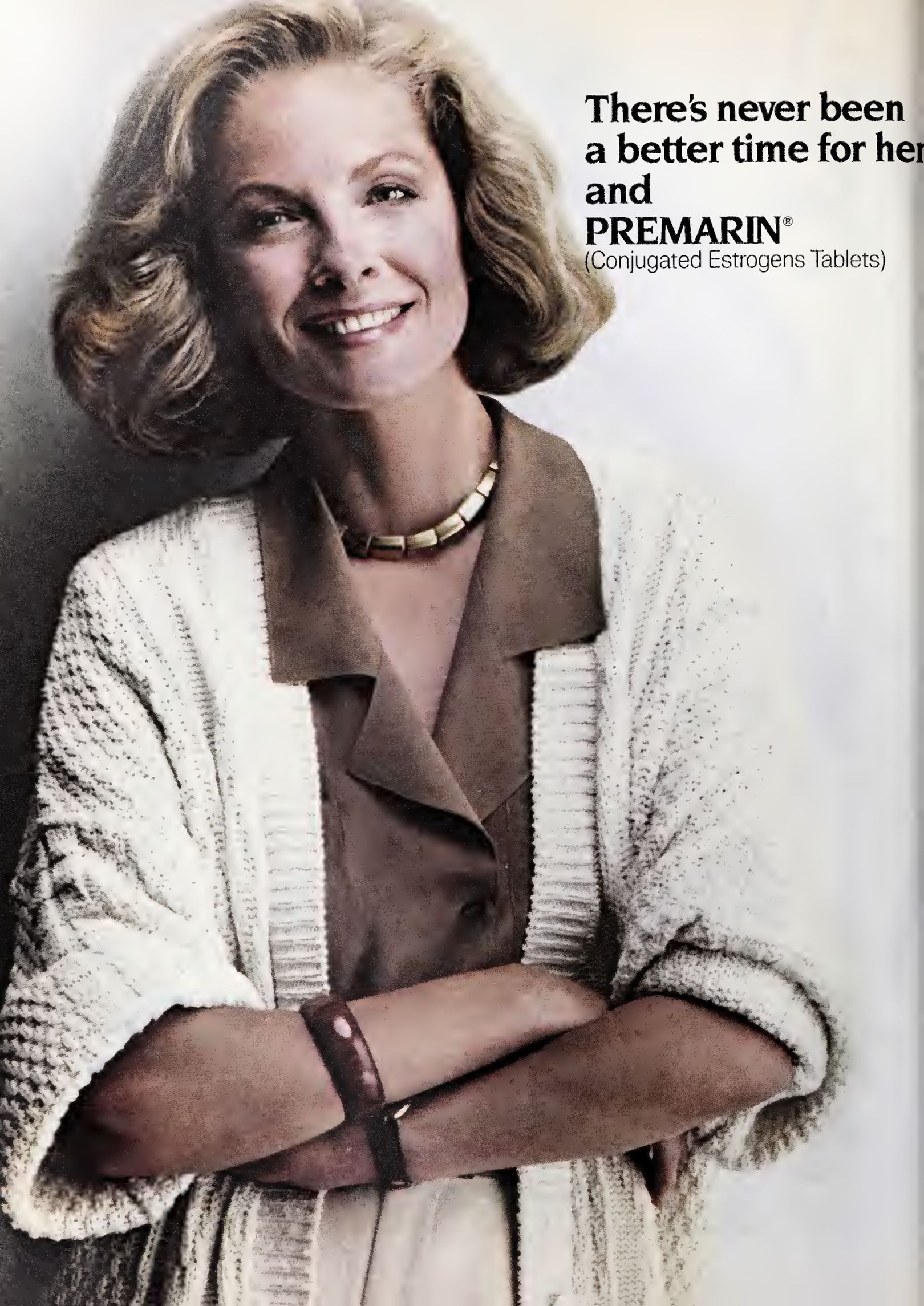
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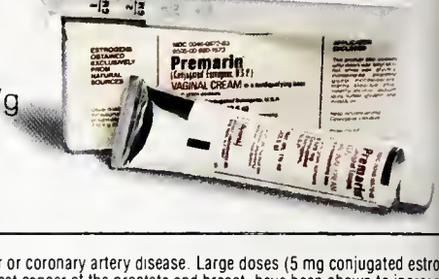
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BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION AND PATIENT INFORMATION, SEE PACKAGE CIRCULARS.)*

PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream in a nonliquefying base

1. ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK OF ENDOMETRIAL CARCINOMA.

Three independent case control studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer. These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade. The three case control studies reported that the risk of endometrial cancer in estrogen users was about 4.5 to 13.9 times greater than in nonusers. The risk appears to depend on both duration of treatment and on estrogen dose. In view of these findings, when estrogens are used for the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible. When prolonged treatment is medically indicated, the patient should be reassessed on at least a semiannual basis to determine the need for continued therapy. Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration; it therefore appears prudent to utilize such a regimen. Close clinical surveillance of all women taking estrogens is important. In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy. There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equiestrogenic doses.

2. ESTROGENS SHOULD NOT BE USED DURING PREGNANCY.

The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring. It has been shown that females exposed in utero to diethylstilbestrol, a non-steroidal estrogen, have an increased risk of developing in later life a form of vaginal or cervical cancer that is ordinarily extremely rare. This risk has been estimated as not greater than 4 per 1,000 exposures. Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix. Although these changes are histologically benign, it is not known whether they are precursors of malignancy. Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes. Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb reduction defects. One case control study estimated a 4.7-fold increased risk of limb reduction defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment for threatened abortion). Some of these exposures were very short and involved only a few days of treatment. The data suggest that the risk of limb reduction defects in exposed fetuses is somewhat less than 1 per 1,000. In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion. There is considerable evidence that estrogens are ineffective for these indications, and there is no evidence from well controlled studies that progestogens are effective for these uses. If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation.

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine. It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters. Tablets are available in 0.3 mg, 0.625 mg, 0.9 mg, 1.25 mg, and 2.5 mg strengths of conjugated estrogens. Cream is available as 0.625 mg conjugated estrogens per gram.

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets, USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause. (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions.) **Osteoporosis (abnormally low bone mass).** Atrophic vaginitis. Kraurosis vulvae. Female castration.

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae. PREMARIN HAS NOT BEEN SHOWN TO BE EFFECTIVE FOR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING).

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized. Studies of the addition of a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia. Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes. Whether this will provide protection from endometrial carcinoma has not been clearly established. There are possible additional risks which may be associated with the inclusion of progestin in estrogen replacement regimens. (See PRECAUTIONS.) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects.

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions: 1. Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease. 2. Known or suspected estrogen-dependent neoplasia. 3. Known or suspected pregnancy (See Boxed Warning). 4. Undiagnosed abnormal genital bleeding. 5. Active thrombophlebitis or thromboembolic disorders. 6. A past history of thrombophlebitis, thrombosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy).

WARNINGS: Long-term continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver. There are now reports that estrogens increase the risk of carcinoma of the endometrium in humans. (See Boxed Warning.) At the present time there is no satisfactory evidence that estrogens given to postmenopausal women increase the risk of cancer of the breast, although a recent study has raised this possibility. There is a need for caution in prescribing estrogens for women with a strong family history of breast cancer or who have breast nodules, fibrocystic disease, or abnormal mammograms. A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens.

Adverse effects of oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women for postpartum breast engorgement. Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke, and myocardial infarction. Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users. An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives. If feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization. Estrogens should not be used in persons with active thrombophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use. They should be used with caution in patients with cerebral vascular or coronary artery disease. Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nontatal myocardial infarction, pulmonary embolism and thrombophlebitis. When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk.

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock. Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives. Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use. A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives. For this reason, diabetic patients should be carefully observed. Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases.

PRECAUTIONS: Physical examination and a complete medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear. As a general rule, estrogen should not be prescribed for longer than one year without another physical examination being performed. Conditions influenced by fluid retention such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation. Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc. Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients. Oral contraceptives appear to be associated with an increased incidence of mental depression. Patients with a history of depression should be carefully observed. Preexisting uterine leiomyomata may increase in size during estrogen use. The pathologist should be advised of estrogen therapy when relevant specimens are submitted. If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated. Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not complete. If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism.

The following changes may be expected with larger doses of estrogen:

a. Increased sulfobromophthalein retention.

b. Increased prothrombin and factors VII, VIII, IX, and X, decreased antithrombin 3; increased norepinephrine-induced platelet aggregability.

c. Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T4 by column, or T4 by radioimmunoassay. Free T3 resin uptake is decreased, reflecting the elevated TBG, free T4 concentration is unaltered.

d. Impaired glucose tolerance.

e. Decreased pregnanediol excretion.

f. Reduced response to metyrapone test.

g. Reduced serum folate concentration.

h. Increased serum triglyceride and phospholipid concentration. As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk.

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives: breakthrough bleeding, spotting, change in menstrual flow; dysmenorrhea; premenstrual-like syndrome, amenorrhea during and after treatment; increase in size of uterine fibromyomata; vaginal candidiasis, change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, bloating; cholestatic jaundice; chloasma or melasma which may persist when drug is discontinued; erythema multiforme; erythema nodosum; hemorrhagic eruption; loss of scalp hair; hirsutism; steepening of corneal curvature; intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea; increase or decrease in weight; reduced carbohydrate tolerance; aggravation of porphyria, edema; changes in libido.

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females.

DOSAGE AND ADMINISTRATION:

PREMARIN® Brand of conjugated estrogens tablets, USP

1. *Given cyclically for short-term use only.* For treatment of moderate to severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0.3 to 1.25 mg or more daily). The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible. Administration should be cyclic (eg, three weeks on and one week off). Attempts to discontinue or taper medication should be made at three- to six-month intervals.

2. *Given cyclically.* Female castration. Osteoporosis. Female castration—1.25 mg daily, cyclically. Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control. Osteoporosis—0.625 mg daily. Administration should be cyclic (eg, three weeks on and one week off).

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

PREMARIN® Brand of conjugated estrogens Vaginal Cream

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The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible.

Administration should be cyclic (eg, three weeks on and one week off).

Attempts to discontinue or taper medication should be made at three-to-six month intervals.

Usual dosage range: 2 to 4 g daily, intravaginally, depending on the severity of the condition.

Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

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1. Whitehead MI, Townsend PT, Pryse-Davies J, et al: Effects of estrogens and progestins on the biochemistry and morphology of the postmenopausal endometrium. *N Engl J Med* 1981;305:1599-1605 **2.** Paterson MEL, Wade-Evans T, Sturdee DW, et al: Endometrial disease after treatment with oestrogens and progestogens in the climacteric. *Br Med J* 1980;280:822-824. **3.** Magos AL, Brincat M, Studd JWW, et al: Amenorrhea and endometrial atrophy with continuous oral estrogen and progestogen therapy in postmenopausal women. *Obstet Gynecol* 1985; 67: 496-499. **4.** Whitehead MI, Lane G, Siddle N, et al: Avoidance of endometrial hyperstimulation in estrogen-treated postmenopausal women. *Semin Reprod Endocrinol* 1983;1:1;41-52. **5.** Barnes RB, Roy S, Lobo RA: Comparison of lipid and androgen levels after conjugated estrogen or depo-medroxyprogesterone acetate treatment in postmenopausal women. *Obstet Gynecol* 1985,66:216-219

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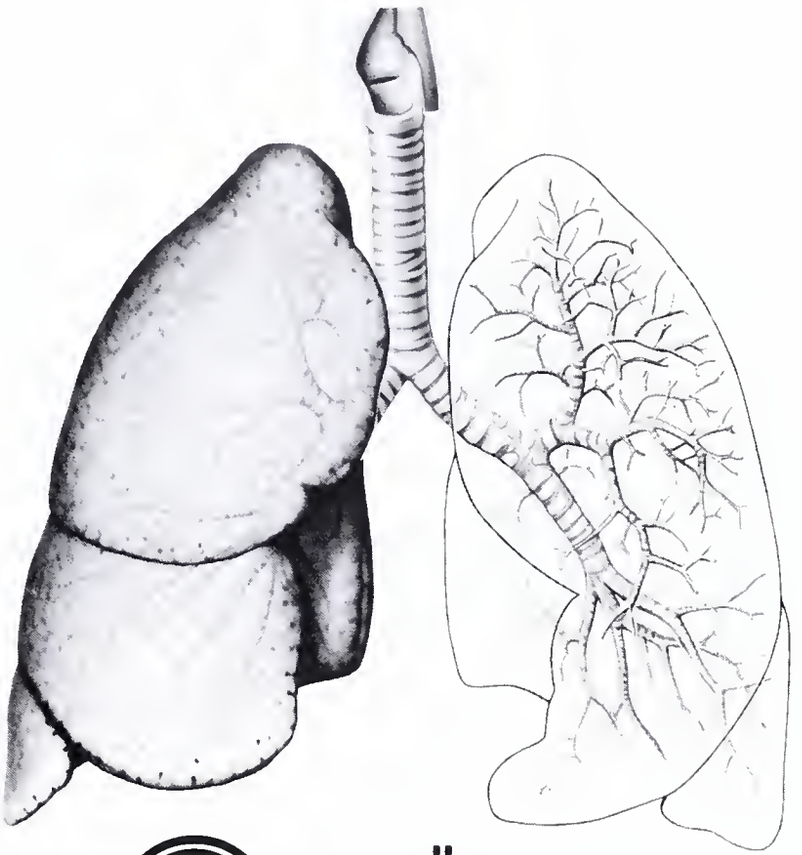
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Warnings: CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:

- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- In renal impairment, safe dosage of Ceclor may be lower than that usually recommended. Ceclor should be administered with caution in such patients.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:

- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, erythema multiforme, serum-sickness-like reactions): 1.5%; usually subside within a few days after cessation of therapy. These reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%.

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- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children)
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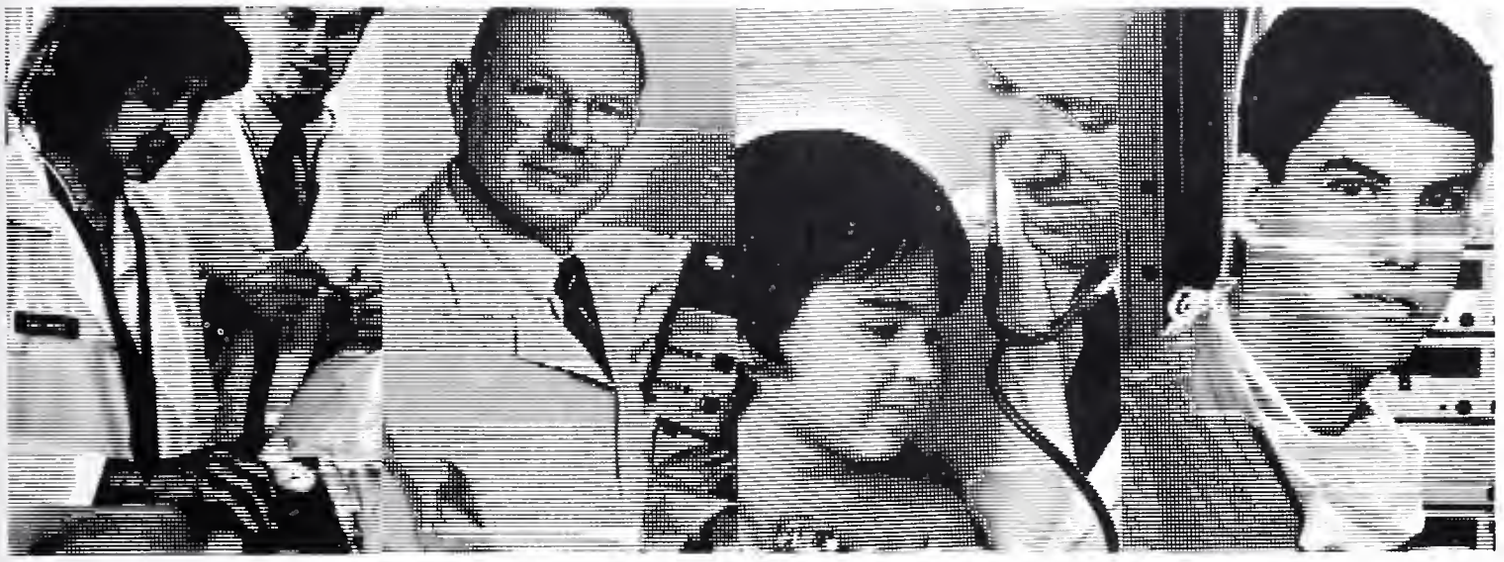
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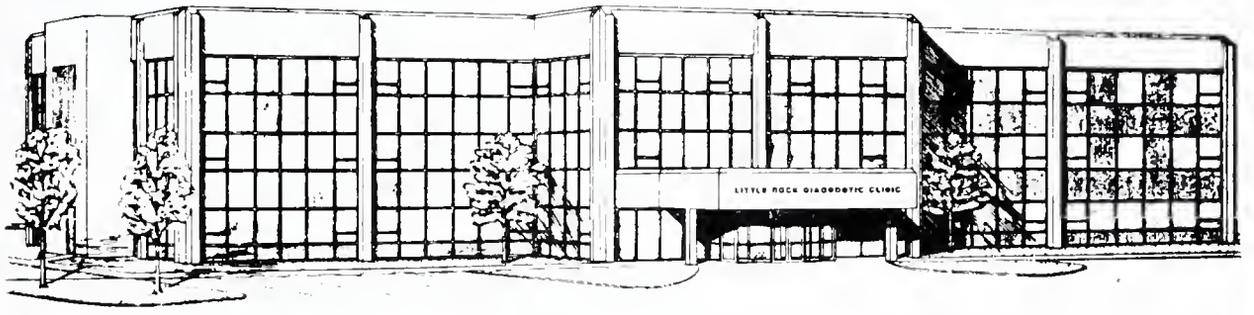
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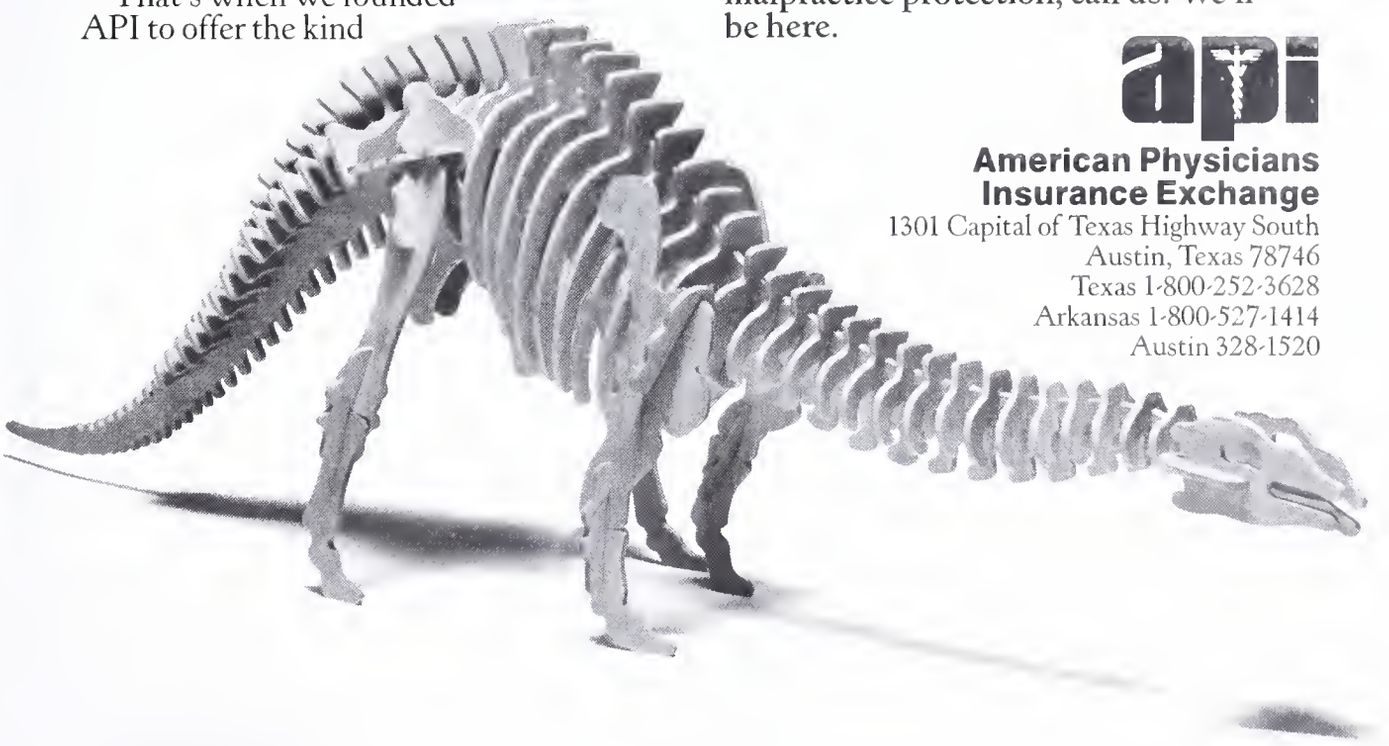
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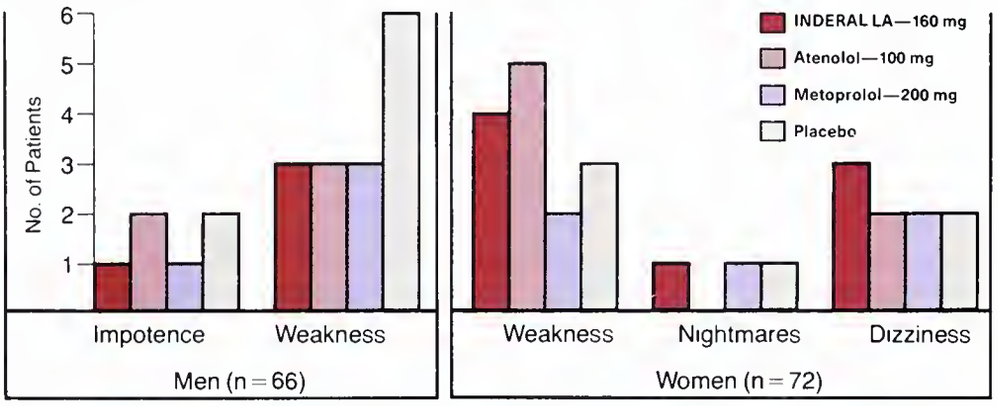
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CONTRAINDICATIONS

Propranolol hydrochloride (INDERAL® LA): Propranolol is contraindicated in: 1) cardiogenic shock; 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with propranolol.

Hydrochlorothiazide: Hydrochlorothiazide is contraindicated in patients with anuria or hypersensitivity to this or other sulfonamide-derived drugs.

WARNINGS

Propranolol hydrochloride (INDERAL® LA): CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated, and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or propranolol should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction following *abrupt* discontinuance of propranolol therapy. Therefore, when discontinuance of propranolol is planned the dosage should be gradually reduced and the patient carefully monitored. In addition, when propranolol is prescribed for angina pectoris, the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If propranolol therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute propranolol therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case this resulted after an initial dose of 5 mg propranolol.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)— PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD, IN GENERAL, NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution, since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

DIABETES AND HYPOGLYCEMIA: Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin. Hypoglycemic attacks may be accompanied by a precipitous elevation of blood pressure.

Hydrochlorothiazide: Thiazides should be used with caution in severe renal disease. In patients with renal disease, thiazides may precipitate azotemia. In patients with impaired renal function, cumulative effects of the drug may develop.

Thiazides should also be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma.

Thiazides may add to or potentiate the action of other antihypertensive drugs. Potentiation occurs with ganglionic or peripheral adrenergic-blocking drugs.

Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma.

The possibility of exacerbation or activation of systemic lupus erythematosus has been reported.

PRECAUTIONS

Propranolol hydrochloride (INDERAL® LA): GENERAL: Propranolol should be used with caution in patients with impaired hepatic or renal function. Propranolol is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that propranolol may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

CLINICAL LABORATORY TESTS: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs, such as reserpine, should be closely observed if propranolol is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity, which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies, in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

PREGNANCY: Pregnancy Category C. Propranolol has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximal recommended human dose. There are no adequate and well-controlled studies in pregnant women. Propranolol should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

NURSING MOTHERS: Propranolol is excreted in human milk. Caution should be exercised when propranolol is administered to a nursing mother.

PEDIATRIC USE: Safety and effectiveness in children have not been established.

Hydrochlorothiazide: GENERAL: Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals.

All patients receiving thiazide therapy should be observed for clinical signs of fluid or electrolyte imbalance, namely: Hyponatremia, hypochloremic alkalosis, and hypokalemia. Serum and urine electrolyte determinations are particularly important when the patient is vomiting excessively or receiving parenteral fluids. Medication such as digitalis may also influence serum electrolytes. Warning signs irrespective of cause are: Dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances such as nausea and vomiting.

Hypokalemia may develop, especially with brisk diuresis, when severe cirrhosis is present, or during concomitant use of corticosteroids or ACTH.

Interference with adequate oral electrolyte intake will also contribute to hypokalemia. Hypokalemia can sensitize or exaggerate the response of the heart to the toxic effect of digitalis (eg, increased ventricular irritability). Hypokalemia may be avoided or treated by use of potassium supplements, such as foods with a high potassium content.

Any chloride deficit is generally mild and usually does not require specific treatment, except under extraordinary circumstances (as in liver or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather; appropriate therapy is water restriction, rather than administration of salt, except in rare instances when the hyponatremia is life-threatening. In actual salt depletion, appropriate replacement is the therapy of choice.

Hyperuricemia may occur or frank gout may be precipitated in certain patients receiving thiazide therapy.

Insulin requirements in diabetic patients may be increased, decreased, or unchanged. Diabetes mellitus which has been latent may become manifest during thiazide administration.

If progressive renal impairment becomes evident, consider withholding or discontinuing diuretic therapy.

Thiazides may decrease serum PBI levels without signs of thyroid disturbance.

Calcium excretion is decreased by thiazides. Pathologic changes in the parathyroid gland with hypercalcemia and hypophosphatemia have been observed in a few patients on prolonged thiazide therapy. The common complications of hyperparathyroidism, such as renal lithiasis, bone resorption, and peptic ulceration, have not been seen. Thiazides should be discontinued before carrying out tests for parathyroid function.

DRUG INTERACTIONS: Thiazide drugs may increase the responsiveness to tubocurarine.

The antihypertensive effects of thiazides may be enhanced in the postsympathectomy patient. Thiazides may decrease arterial responsiveness to norepinephrine. This diminution is not sufficient to preclude effectiveness of the pressor agent for therapeutic use.

PREGNANCY: Pregnancy Category C. Thiazides cross the placental barrier and appear in cord blood. The use of thiazides in pregnancy requires that the anticipated benefit be weighed against possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult.

NURSING MOTHERS: Thiazides appear in human milk. If use of the drug is deemed essential, the patient should stop nursing.

PEDIATRIC USE: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Propranolol hydrochloride (INDERAL® LA): Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: Bradycardia, congestive heart failure, intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type.

Central Nervous System: Lightheadedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia; visual disturbances; hallucinations; an acute reversible syndrome characterized by disorientation for time and place; short-term memory loss; emotional lability; slightly clouded sensorium, and decreased performance on neuropsychometrics.

Gastrointestinal: Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation; mesenteric arterial thrombosis; ischemic colitis.

Allergic: Pharyngitis and agranulocytosis; erythematous rash; fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: Bronchospasm.

Hematologic: Agranulocytosis; nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: Alopecia, LE-like reactions, psoriasiform rashes; dry eyes; male impotence; and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes, and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

Hydrochlorothiazide:

Gastrointestinal: Anorexia, gastric irritation, nausea, vomiting, cramping, diarrhea, constipation, jaundice (intrahepatic cholestatic jaundice), pancreatitis; sialadenitis.

Central Nervous System: Dizziness, vertigo; paresthesias; headache; xanthopsia.

Hematologic: Leukopenia, agranulocytosis; thrombocytopenia; aplastic anemia.

Cardiovascular: Orthostatic hypotension (may be aggravated by alcohol, barbiturates, or narcotics).

Hypersensitivity: Purpura, photosensitivity; rash; urticaria, necrotizing angiitis (vasculitis, cutaneous vasculitis); fever; respiratory distress, including pneumonitis; anaphylactic reactions.

Other: Hyperglycemia, glycosuria, hyperuricemia, muscle spasm; weakness; restlessness; transient blurred vision.

Whenever adverse reactions are moderate or severe, thiazide dosage should be reduced or therapy withdrawn.

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REFERENCE:

1. Ravid M, Lang R, Jutrin I. The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily. *Arch Intern Med* 1985;145:1321–1323.

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Treatment of Clinically Diagnosed Brown Recluse Spider Bites with Hyperbaric Oxygen: A Clinical Observation

Fred J. Svendsen, M.D.*

INTRODUCTION

Six cases of clinically diagnosed Brown Recluse spider bites are presented. These bites were all class 3 or 4 envenomations according to the classification of Auers and Hershey. Hyperbaric oxygen therapy was instituted two to six days post bite. All cases healed promptly; without hospitalization, surgery, third degree skin slough, or significant scarring. Possible biochemical mechanisms involved are discussed. Treatment protocol was in a Sechrist monoplace chamber at 2 ATA for 90 minutes at pressure twice daily for one to three days as outpatients. Further animal and controlled human studies are planned.

Having practiced in the center of the range of the Brown Recluse spider for over twenty years; I have had particular difficulty treating the Brown Recluse spider bite that presents late (after an area of blue-black necrosis starts). These bites have followed an unpredictable course, often resulting in a third-degree skin slough requiring grafting, or a very slowly healing wound. The severity and indolent nature of these wounds have been described by various authors.

One of the most common problems is that the patient presents with an enlarging inflamed lesion on the skin and he may or not know if it was a spider bite that initiated it, or the spider was not adequately identified. In this situation the physician must rely on his clinical experience and judgment to make a diagnosis. One of the best descriptions of the dermatologic changes that the clinician will see is described in the Poisindex as follows:

> "The bite may or may not give rise to some immediate pain but in most cases some pain or a burning sensation develops about the wound within the first 10 minutes, Pruritus is usually present and the area around the wound becomes red and angry, after showing irregular ecchymosis. A small vesicle forms at the bite area. The lesion may take on a "bulls eye" appearance, having a central vesicle surrounded by an erythematous and ecchymotic area, and often a blanched ring around this. In most cases the lesion is diagnostic in four to eight hours. The vesicle ruptures, exposing an ulcer. A pustule forms and often breaks down, leaving a black eschar. The ulcer may enlarge and involve underlying tissues, including muscle. In the absence of treatment there may be a large tissue defect requiring plastic surgery. Pain may be severe and involve the whole extremity, or part. A generalized pruritic morbilliform rash may occur in the presence or absence of severe local or systemic reactions, usually within 24 to 48 hours."

In my experience, the patient usually thinks he has an insignificant skin lesion initially, and does not seek medical attention until he sees skin changes that are becoming progressively larger and more painful (frequently two to three days post bite). By this time the clinical diagnosis of Brown Recluse spider bite is much easier to make, but much harder to treat.

The native range of the Brown Recluse spider is the South and South Central states, extending as far north as Iowa and Illinois. With the increase in camping and travel, any physician may see these problem wounds. The spider gets its name from its brown color and its living habits.

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It most frequently inhabits areas where it will not be disturbed. It comes in contact with man from its habit of living in closets, in infrequently used clothing or bedding, or in dry storage areas. The spider makes a small insignificant amount of web and may not be noticed. It is territorial and will kill and eat other insects and spiders (including other Brown Recluse spiders). Insecticides will frequently cause the spider to leave his hidden habitat and may increase his chances to come into contact with man.

I would like to present the results that I have had a small series (six cases) of clinically diagnosed Brown Recluse spider bites. To the best of my knowledge, this is the first report on treating Brown Recluse spider bites with hyperbaric oxygen in a hyperbaric chamber. I feel that the results of this series warrants further animal studies and a controlled human study to confirm the use of hyperbaric oxygen (HBO) in the problem Brown Recluse spider bite. I want to emphasize that I do not feel that hyperbaric oxygen is indicated in the routine bite, but only in the bite that appears to be progressing to a possible or probable third-degree skin slough.

MATERIALS AND METHODS

All patients were advised of the experimental nature of this modality of treatment, and signed informed consent for treatment and consent for photos.

The following criteria was used for patient selection in this series:

1) Problem bites of the face, genitalia, hands, or feet.

2) Bites at other sites that had an area of blue-black discoloration or bulla exceeding one inch in diameter.

These criteria were picked in order to select the wounds that would most likely lead to third-degree slough, or to become difficult or long-term management problems. All of the bites would have been in groups 3 or 4 according to the classification of Auer and Hershey.[5]

Prior or concommitant treatment of these bites was not considered or significantly changed. All of the bites were clinically deteriorating at the time of instituting hyperbaric oxygen (HBO) therapy. Prior treatment usually consisted of some combination of the following—oral and/or I.M. steroids, antibiotics, antihistamines, tetanus immunization.

Hyperbaric oxygen therapy was administered in a Sechrist Model 2500B monoplace unit. The patient is totally enclosed in this pressure chamber, and breathes 100% oxygen at a pressure up to 3 ATA. A pressure of 2 ATA for 90 minutes at pressure twice daily was used in this series, as this protocol is fairly standard for treating problem ischemic wounds with minimal risk of inducing oxygen toxicity complications.[6]

CASE 1. G. H. is a 33-year-old white emergency department secretary who first noticed what appeared to be an insect bite over the mid portion of her left anterior tibial area on May 16, 1984. This increased in size and she first saw a physician on May 18, and was prescribed steroids and antibiotics. I first saw her May 23, at which time she had a 1 inch diameter blue-black bulla with a surrounding 3-4 inch diameter area of painful erythema. The bulla had already ruptured exposing a necrotic base. HBO therapy was started on this patient and during the treatment of this first patient in the series, it was noted that the blue-black bulla changed to essentially normal

TABLE 1

CASE REVIEW OF INITIAL FINDINGS

Case #	Time Since Bite	Blue-Black Lesion	Location
1	7 days	3cm dia.	ant. lower leg
2	56 hrs.	3cm dia.	ant. lower leg
3	6 days	4cm X 6cm	upper thigh
4	3 days	0.5cm X 1cm	face-infra orbital
5	2½ days	4cm X 7cm	medial calf
6	2 days	7cm	lateral rt. thigh

pink skin color shortly after the patient arrived at pressure. This has been a consistent finding in all of the patients in this series. The patient had moderately severe claustrophobia in the chamber, and only tolerated a period of 15 minutes at pressure on her second treatment and refused further treatment. The wound went on to a second-degree skin slough and healed uneventfully without scar.

CASE 2. R. P. is a 36-year-old white female that was bitten by an unknown insect in bed about midnight July 10, 1984. On July 11 (42 hours post-bite) she first presented with a 2 cm diameter, round, raised, brown-ecchymotic colored lesion on her left lower leg with a surrounding area of erythema and tenderness. Clinical diagnosis at that time was Brown Recluse spider bite, and treatment was 10 mg. decamethasone I.M. and a prescription for prednisone that the patient did not get filled. She was next seen 12 hours later (56 hours post-bite) at which time the lesion had enlarged to 1 to 1½ inch in diameter blue-black bulla with dermal-epidermal separation. This was surrounded by a 3 to 4 inch area of erythema. HBO was started at 2 ATA for one hour at pressure twice daily for three treatments. Again it was noticed that the lesion turned pink during the treatments and photos were taken to verify this finding. The wound progressed well with only second degree skin slough, rapid epithelialization, and essentially no scarring. (Photos 1, 2, and 3)

CASE 3. V. B. is a 42-year-old white male who was bitten by an unknown insect on July 6, 1984. He first presented to the emergency room approximately 24 hours post-bite, complaining of headache, rash on trunk and thighs and a painful insect bite on his medial right thigh. His temperature was 99.1 F. but otherwise there were normal vital signs. There was a red maculo-papular confluent rash involving both thighs, lower abdomen, and back with no petichia noted. There was a 1 x 4 cm. blue-black indurated area on the medial aspect of his right thigh with surrounding edema. Laboratory studies revealed a normal PT, PTT, 186,000 platelets, 9,900 WBC with slight left shift and otherwise normal CBC. Treatment at that time was 10 mg. dexamethasone I.M., 0.5 cc tetanus toxoid, cefadroxil 1 gm. oral b.i.d., and the patient was instructed to return to the emergency room in 12 hours.

The patient returned to the emergency room the next morning at which time it was noted that the generalized rash had improved but that there was a ¾ by 2½ inch area of blue-black induration on the medial aspect of the right thigh with surrounding erythema and induration. The patient was given 10 mg. dexamethasone I.M., and a methylprednisolone dosepack was started. Only a second degree skin slough was anticipated at that time.

The patient next returned to the emergency room July 10 complaining of increasing pain, redness, and swelling. Examination revealed the infarcted area was larger (total area 4 x 6 cm).



Photo 1 — Pre-treatment

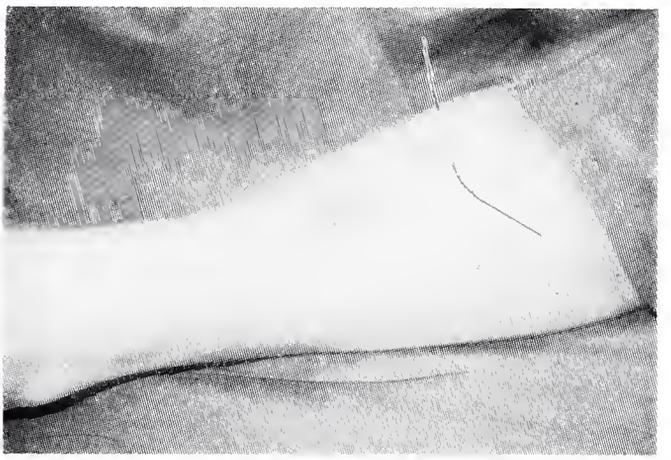


Photo 2 — At pressure



Photo 3 — Late healing

There was a maculo-papular rash over the entire medial right thigh. Incision and drainage of the necrotic area revealed blood only—no purulant material. The patient was given dexamethasone 10 mg. I.M. and advised to continue the methylprednisolone dosepack.

The patient returned to the emergency room two days later at which time the infarcted skin area appeared to be the same size but deeped, and third-degree skin slough was anticipated. HBO was started this date at 2 ATA for one hour at pressure twice daily. The patient received two treatments but refused further treatment, again because of claustrophobia. At this time the lesion was less painful and did appear to have improved from its previous condition, with less swelling and erythema. The lesion then underwent a second-degree skin slough, and went on to epithelialize; leaving a flat, slightly brown-colored scar.

CASE 4. S. F. is a 16-year-old white female who first noticed what she thought was an insect bite below her right eye on July 7, 1985, with redness and swelling in that area. The swelling and pain increased and she first saw a physician for this on July 9. At that time she was started on cefaclor 250 mg. four times daily and dexamethasone 0.75 mg. twice daily. Her symptoms continued to worsen and she was first seen at our hospital July 10. At that time it was noted that the patient had what appeared to be a Brown Recluse spider bite of the right infra-orbital area with a ½ by 1 cm. dark necrotic area and induration and erythema of the entire right maxillary area. HBO was started at a pressure of 2 ATA for a 90 minute period twice daily. She received a total of six treatments. Healing was rapid and without scar formation.

CASE 5. H. R. B. was seen by another physician May 19, 1985 with a history of having been bitten by an unknown insect approximately two days previously on the lower left leg. He had developed increasing swelling, redness, pain, and dark discoloration in the area. The patient was treated with dexamethasone 10 mg. I.M., started on oral antibiotics and a dexamethasone dosepack; and referred for hyperbaric oxygen therapy. On arrival here, there was a blue-black necrotic-appearing area measuring approximately 2-3 inches in diameter on the left lower leg. This was surrounded by a rather large area of erythema and edema. HBO therapy was instituted at 2 ATA for 90 minutes at pressure twice daily. After the fifth treatment the wound appeared to be stable and improving, and HBO was discontinued. The wound then went on to second degree skin slough, healed rapidly, leaving essentially no scar. (Photos 4, 5, and 6)



Photo 4 — Pre-treatment

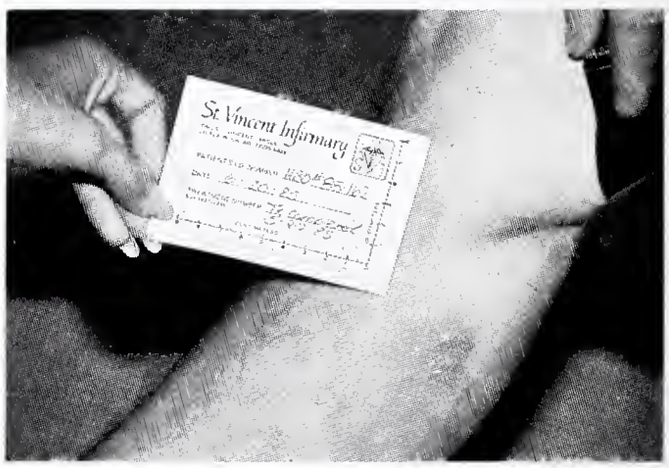


Photo 5 — One month post-bite

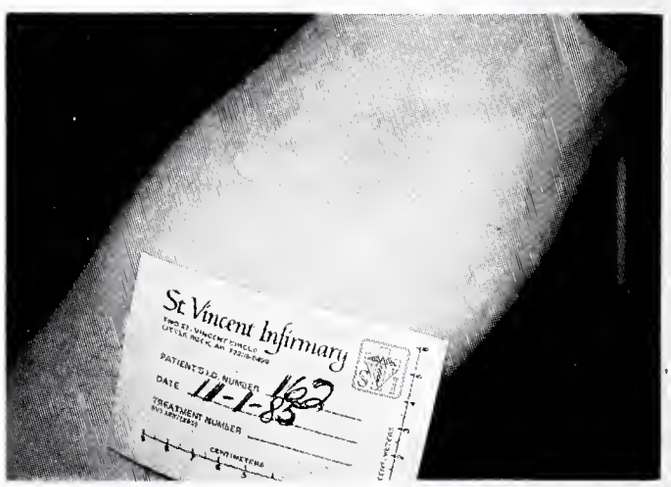


Photo 6 — Late healing

CASE 6. G. A. This 45-year-old white male presented to the emergency room in the evening of December 2, 1985 with the following history. On November 30 he had put on a pair of jeans that

had been stored in a closet. About 2 p.m. that day he noticed an itching sensation on the lateral aspect of his right thigh. He did not identify any insect but did notice a red itching area late that evening. In the morning, December 1, he noticed that the area of erythema had increased to 3-4 inches in diameter and had a central 1 inch blue blister. The central blister ruptured spontaneously that evening. On the morning of December 2, the area of erythema was "football size" with a 3 inch area of blue-black central discoloration. According to the patient this was "super sore" and he therefore sought medical attention. Physical findings in the emergency room were essentially as above, without systemic findings. No laboratory studies were performed. The clinical diagnosis of Brown Recluse spider bite was made and oral prednisone dosepack, and cephalexin 500 mg. twice daily was started. Hyperbaric oxygen therapy at 2 ATA twice daily was started. The patient states that he noted decreased pain after two treatments, and was pain-free after the third treatment. He received a total of six treatments. The wound healed rapidly without third degree skin slough, and on December 12 only a 5-6 mm red papular lesion remained.

This series of clinically diagnosed Brown Recluse spider bites that presented for treatment late and with potentially problem wounds appears to have a better treatment result with adjunctive HBO therapy when compared to the presently available treatment modalities. None of the patients had a third degree skin slough. None required hospital admission, or surgical procedures after instituting HBO.

DISCUSSION

There is probably a significant variation in the amount of venom injected in any Brown Recluse spider bite, just as there is in venomous snake bites, since both of the venoms are primarily used to capture and digest prey. Frequently the spider is not seen or identified, and the patient does not seek medical attention until he notices a progressing, painful, inflamed, ulcerating lesion.

HBO treatment was started on the first patient on the theoretical grounds that the necrosis of the tissue in Brown Recluse spider bites was at least partially caused by tissue hypoxia, secondary to the vasospastic and thrombotic effects of the venom. The venom of the Brown Recluse spider has been shown to have many physiological properties; including vasoconstrictive, thrombotic, hemolytic, and necrotizing activity. Pathologic findings early include hemorrhage beneath the epidermis, dermal-epidermal separation, thrombosis of small arterioles, and inflammatory changes with leukocyte infiltration. Later pathologic findings are necrosis, ulceration and thrombosis of the surrounding dermal and subcutaneous blood vessels. Areas of the body with poor blood supply or large amounts of subcutaneous adipose tissue seem to be especially susceptable to extensive skin sloughs. Initially I felt that if the prolonged ischemia of the wound could be ameliorated, tissue necrosis could be prevented. I now feel that something additional is happening in the wound. Babcock et al.,[7] and Heinz and Norment,[8] both reported that the necrotizing component of the Brown Recluse venom is probably an enzyme containing sulfhydryl groups. Haugard,[9] reported that enzymes containing sulfhydryl groups are particularly susceptable to inactivation by hyperbaric oxygen. I feel that further research into this area will show that HBO actually inactivates in vivo the necrotizing enzyme component of the Brown Recluse spider venom.

Previous treatment protocols for the management of problem Brown Recluse spider bites have included antibiotics, antihistamines, heparin, intra-lesional steroids, systemic steroids, early and late excision, debridement, topical oxygen, and more recently Dapsone 10. None of these seem to be completely satisfactory and many of the wounds progress, resulting in prolonged healing or skin grafting.

The most common complication of HBO therapy is barotrauma (particularly involving the ears) which is fairly easy to manage with oral decongestants, nasal sprays, and patient instruction in methods of equalizing the pressure in the middle ear. Claustrophobia may also be a problem (as it was early in this series). HBO appears to be as safe or safer than other currently used treatment modalities.

A review of charts at a local hospital revealed that the average cost of hospitalization (not including physician or surgeon fees) for patients admitted with Brown Recluse spider bites was $3,113.74. There were four patients admitted who had a total of seven operative procedures four debridements and three split-thickness skin graftings). The average cost of HBO in this series of patients would have been approximately $1,000-$1,200. Therefore I feel that this is also a cost ef-

fective method of treatment for the selected group of patients who have a large envenomation with high probability for a large, third degree, skin slough.

CONCLUSIONS

The clinical results in this small experimental series appears to indicate that Hyperbaric Oxygen Therapy may well be as effective or more effective than present treatment modalities in the problem Brown Recluse spider bite. I feel that further controlled human studies and particularly animal studies to determine if the findings observed were due to simply oxygenating an ischemic wound, or were also caused by an in vivo de-activation of the necrolytic enzyme component of the venom. We are presently initiating further studies in these areas.

ACKNOWLEDGMENTS

I wish to thank the following for their patience, help, and encouragement that they gave me in preparing this paper — Dr. Jere Guinn, Dr. Thomas Jansen, Dr. Paul Morgan, Dr. Robert Harrell, Dr. James Box, Dr. Wendell Pahls, and the staff of the Hyperbaric Oxygen Therapy Department of St. Vincent Infirmary.

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SUBJECT: PROBLEM BROWN RECLUSE SPIDER BITES

Most physicians practicing in Arkansas occasionally see brown recluse spider bites that progress to significant third degree skin slough requiring surgical excision, skin grafting, etc.

For the past two years we have been conducting an investigational study treating these bites in a Sechrist hyperbaric oxygen chamber. Selection of lesions was basically according to the following guidelines:

A) 1 cm diameter blue-black central lesion or larger involving face, genitalia, hands or feet.

B) 2½ cm diameter blue-black central lesion involving other areas of body.

These lesions were 2 to 8 days post bite when treatment was started. For the most part, the lesions were progressing in spite of treatment with antihistamines, steroids, antibiotics etc.

To date we have treated 15 clinically diagnosed brown recluse spider bites with significant envenomation according to the above criteria.

We have selected patients with significant envenomations whose lesions were progressively worsening while under therapy with other treatment modalities.

Results to date on the 15 patients:

(1) No surgical excisions.
(2) No skin grafts.
(3) Most patients are pain free in 36-48 hours.
(4) Maximum area of 3rd degree slough approximately 5mm diameter.
(5) All lesions healed in one month or less.

Initially in the series 6 treatments were given, but it now appears that 3 or 4 treatments on a B.I.D. schedule are sufficient in most cases.

If you desire further information about HBO treatment of brown recluse spider bites, desire a presentation of these cases to your physician staff, or desire to refer a patient for treatment please call this number (24 hr. WATTS line) 1-800-RECLUSE.

Psychological Aspects of Coronary Artery Disease*

Michael G. Goldstein, M.D.**

Though physicians have been aware of the relationship between psychological factors and heart disease for centuries, we have only recently, within the last few decades, identified specific psychologic and psychosocial factors which contribute to the manifestations of coronary artery disease. In the following paper, I will first discuss psychological factors which contribute to the pathogenesis of coronary artery disease. Then, I will describe common psychological and psychiatric reactions to the development of clinical coronary artery disease, focusing on the sequelae of a myocardial infarction. Finally, psychological and psychiatric interventions for patients after a myocardial infarction will be discussed.

PSYCHOLOGICAL FACTORS WHICH CONTRIBUTE TO THE PATHOGENESIS OF CORONARY ARTERY DISEASE

The three main, traditionally established, risk factors for developing coronary artery disease are hypertension, smoking, and elevated serum cholesterol. However, these account for only about 50% of the variance in CAD incidence.[1,2] Psychosocial factors are also associated with CAD and account for at least some of the remaining variance.

There have been a number of previous reviews of the literature on the relationship between psychosocial factors and the development of coronary artery disease.[1,14,31,32,39,43-45,55] Dorian and Taylor[1] have described several clusters of psychosocial factors which are related to the pathogenesis of CAD which I have adapted and listed in Table 1. I will review the evidence for the importance of each of these factors.

Type A Behavior Pattern (TABP)

Cardiologists Friedman and Rosenman[3] described and defined Type A Behavior Pattern in the 1960's after they noted a high incidence of certain psychological traits and behaviors in clinical samples of patients with coronary artery disease.

Type A Behavior Pattern is an "action-emotion complex", a cluster of psychological and behavioral traits which are listed in Table 2.

TABLE 1
PSYCHOSOCIAL RISK FACTORS IN THE DEVELOPMENT OR EXACERBATION OF CORONARY ARTERY DISEASE

1. Type A Behavior Pattern
2. Components of Type A
3. Work "Overload" or Life Stress
4. Social Support
5. Chronic Disturbing Emotions
6. Acute Situational Disturbance
7. Socioeconomic Disadvantage
8. Life-Style Risks
   1) Smoking
   2) Diet
   3) Exercise

[Adapted from Dorian, B., and Taylor, C. B., (1984), J. Occupational Med., 26:747-756]

TABLE 2
CHARACTERISTICS OF THE TYPE A BEHAVIOR PATTERN

Hostility
Time Urgency
Impatience
Aggressiveness
Ambition
Competitiveness
Setting Excessively High Performance Standards
Hard-Driving Behavior
Speech and Motor Characteristics:
  excessively rapid body movements
  tense facial and body musculature
  explosive conversational speech
  hand or teeth clenching

Type A's have an intense hard driving competitiveness, a persistent sense of time urgency, and easily evoked hostility. They act with haste and impatience, speak in an accelerated and emphatic manner, and appear extraordinarily alert, with tense facial musculature. Type A's also frequently exhibit a variety of characteristic mannerisms (e.g. clenched fist, repetitive foot tapping).

Type B Behavior Pattern is characterized by a relative absence of these traits.

The relationship between TABP and CAD is complex. Krantz and Durel[4] have developed a model for understanding the relationship between

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Type A Behavior Pattern and Coronary Artery Disease which is depicted in Figure 1.

I will review some of the evidence linking Type A Behavior Pattern with increased risk for developing coronary artery disease. Then, I will present some data on the relationship between subcomponents of Type A and CAD. Third, evidence linking TABP with increased sympathetic and cardiovascular physiologic reactivity will be presented. Finally, factors which contribute to the development of TABP, such as underlying thought patterns and beliefs, will be discussed.

TABP can be measured in several ways. The Structured Interview (SI) utilizes a trained interviewer who asks questions pertinent to the definition in a deliberately challenging manner to bring out Type A behaviors. The scale measures both content and specific behaviors including facial expressions, gestures and speech characteristics. Of the available self-report measures, the Jenkins Activity Survey is best known. However, it is relatively insensitive to behavioral components and underestimates the anger-hostility dimension.[4]

Type A Behavior Pattern (TABP) — Epidemiologic Studies

Three major prospective studies have found Type A BP to be a risk factor for developing clinical CAD.[5-7] The Western Collaborative Group Study (WCGS) followed 3,200 employed men, all without a history of coronary artery disease (CAD) at the start of the study, for 8.5 years.[5] Type A was assessed by the SI. SI-identified Type A men had twice the incidence of CAD as Type B men.[5] This association held even after the effects of traditional risk factors were controlled statistically. (See Figure 2). Results from the Framingham Heart Study indicated that Type A behavior was an independent predictor of the eight year incidence of Coronary Heart Disease (CHD) and MI among men, but only among those with white collar positions.[6] TABP was also predictive of CHD in women aged 45-64.[6] Results from the French-Belgian Cooperative study also found TABP to be an independent predictor of total CHD, MI and sudden death in initially healthy men from the European communities who were followed about five years.[7]

In 1981, a panel of experts of a National Heart Lung and Blood Institute conference concluded that the Type A Behavior Pattern is a risk factor for CAD "over and above that obtained by the other major risk factors".[8]

The three studies described above all involved initially healthy individuals. Recently, three longitudinal studies of patients with either a previous MI or elevated traditional risk factors found no association between TABP measures and subsequent CAD events.[9-11] Rosenman has recently reported that Type A individuals in the WCGS who had a myocardial infarction actually had less subsequent mortality at follow-up than Type B's.[12]

To summarize, epidemiological evidence suggests that TABP is a risk factor for the development of CAD, but recent evidence suggests that once CAD is present, the presence of TABP does

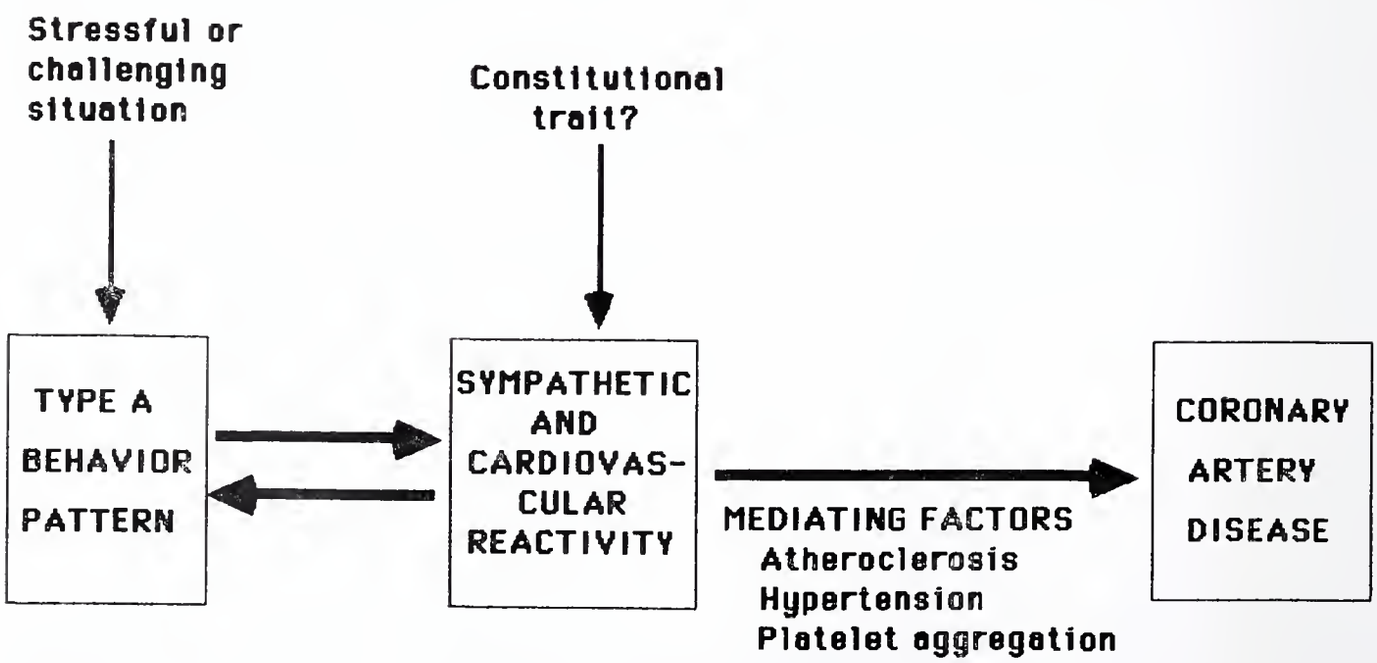


Figure 1.

Model of Type A behavior and the development of coronary artery disease. (Adapted from Krantz, D. S., and Durel, L. A., Health Psychology 2:393-411, 1983.)

not increase the risk of having subsequent morbid events.

Type A Behavior Pattern (TABP) — Angiography Studies

A number of studies have attempted to demonstrate a relationship between Type A BP and the extent of coronary atherosclerosis as measured by coronary angiogram.

Pickering, in a recent review of the literature, found no consistent relationship between *overall* Type A and extent of CAD.[13] He describes a number of confounding factors present in these studies which may explain the discrepancies. Among these are differences in methodology, bias in the selection of subjects and the lack of a true control group. As Pickering also points out, the only coronary risk factor which has been consistently associated with extent of atherosclerosis as measured by angiogram is hypercholesterolemia. He concludes that measuring atherosclerosis by coronary angiogram should not be the gold standard for assessing the role of behavioral factors in the development of CAD.

Type A Behavior Pattern (TABP) — Components of Type A

Recent studies have attempted to identify those components of TABP that are most strongly associated with coronary artery disease. Manuck et al.[14] and Williams[15] have recently reviewed these studies.

"Potential for hostility", measured behaviorally using the Structured Interview, was the strongest predictor of coronary events when data from the Western Collaborative Group Study were reanalyzed.[14] A psychometric measure of "hostility", the Cook Medley Hostility Inventory which is derived from the MMPI, has been found to be predictive of CAD events and total mortality in two prospective studies.[16,17] The association was independent of the traditional risk factors. Not expressing anger outwardly (anger-in) predicted 8-year incidence of coronary artery disease among women and white-collar men in the Framingham sample.[14]

Angiographic studies have demonstrated an association between hostility and extent of CAD, independent of other risk factors. A recently published study of 131 patients, drawn randomly from a population of over 2,000 patients undergoing coronary angiography at a university medical center, found that both potential for hostility and anger-in, measured from the Structured Interview, were independent predictors of disease severity. Outcome measures included anginal symptoms and number of myocardial infarctions.[18] Of particular note was the interaction found between these two factors. Hostility was related to CAD outcome measures only when high anger-in was present. (Figure 2)

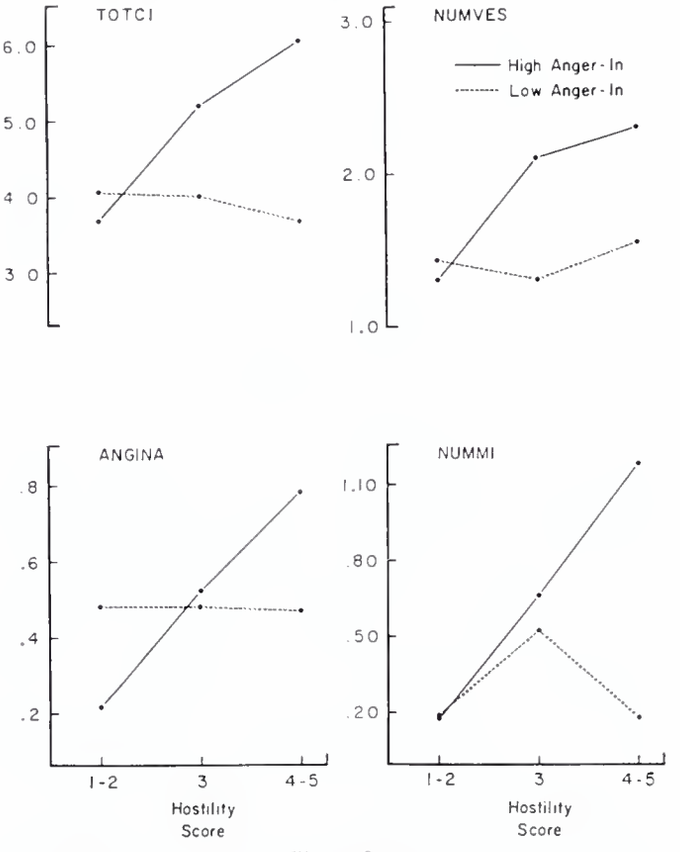


Figure 2.

Relationship between Potential for Hostility and Anger-In at four disease endpoints. (From Dembroski, T. M., MacDougall, J. M., Williams, R. B., Haney, T. L., and Blumenthal, J. A., Psycosom. Med. 47:228, 1985.)

Psychophysiologic Correlates of Type A Behavior

As noted earlier, it has been hypothesized that Type A Behavior Pattern contributes to the development of coronary artery disease via its effect on sympathetic and cardiovascular reactivity. (See Figure 1). Type A behavior is believed to lead to repeated and excessive activation of potentially pathogenic neuroendocrine and cardiovascular responses.[4,14] There are numerous studies that report that Type A's frequently display larger episodic increases in blood pressure, heart rate and catecholamines when confronted by challenging or stressful tasks.[4,14] Though the challenging nature of the task is felt to be an important mediating factor in demonstrating greater reactivity in Type A's. Type A's have also been noted to have greater systolic blood pressure reactivity when unconscious, undergoing coronary bypass surgery.[4] Components of Type A Behavior

Pattern, such as hostility, are also associated with greater cardiovascular reactivity.[19,20]

As noted in Figure 1, there is a reciprocal relationship between Type A Behavior Pattern and cardiovascular reactivity. There is evidence that the expression of Type A behavior is influenced by the physiologic state of the individual. Dampening of physiologic cardiovascular responses after pharmacologic treatment with beta-blockers decreases observed Type A behavior, especially speech stylistics and hostility.[21] Krantz hypothesizes that the cognitive interpretation of physiologic responses contributes to the expression of Type A behavior.[4] For example, an individual may interpret such internal cues as increased heart rate and tremulousness as signals of a threat and respond with increased Type A behavior.

There is now considerable evidence that activation of the sympathetic nervous system contributes to the development of atherosclerosis and clinical coronary disease.[14,22] The best evidence for this comes from primate studies. Manuck has reported that monkeys with high reactivity to a standard laboratory stressor develop twice the extent of coronary atherosclerosis when fed a moderately atherogenic diet as low reactive animals.[14] Both hemodynamic mechanisms (i.e. hypertension, increased turbulence), and neuroendocrine mechanisms (i.e. catecholaminergic influences on platelet aggregation and vascular tone) have been hypothesized to mediate the relationship between reactivity and CAD, but the mechanisms have not been fully elucidated.[14,22]

Factors That Contribute to the Development of TABP — Core Cognitive Patterns and Beliefs

Factors which are believed to contribute to the development of Type A Behavior Pattern have been the subject of numerous papers, reviewed recently by Matthews[23] and Price.[24] As noted previously, there appears to be a reciprocal relationship between cardiovascular reactivity and the Type A Behavior Pattern. Type A Behavior is also more likely to be elicited in situations which are stressful or challenging.[4,23] Some components of TABP, such as reactivity or aggressiveness, may be inherited, though the evidence for this is limited.[4,24]

Price has developed a theoretical model to explain the development of Type A behavior that is derived from Social Learning Theory. (Figure 3)

To oversimplify, this theory posits that there are social, cultural, and environmental *antecedents* to behavior that interact with cognitive and physiological factors to produce a *core set of beliefs and fears.* These, in turn, lead to the development of overt manifestations of TABP. Type A behavior is also partially determined by the environmental and personal *consequences* of TABP which provide feedback to the individual and reinforce behavior.

Price has schematized the relationship between the cognitive core beliefs and fears of TABP and resulting psychological and behavioral characteristics as shown in Figure 4.[24] Price describes three primary core beliefs: that one must constantly prove oneself; that no universal moral principle exists; and that resources are scarce. This leads to fears of insufficient worth, that good will not prevail, and of insufficient supply. Thus, Type A's set excessively high performance standards, and become competitive, aggressive, impatient, hard-driving and hostile. They are particularly likely to become aroused and exhibit Type A Behavior in situations in which they perceive hostile competition or potential loss of control over the environment.[24] Matthews has studied

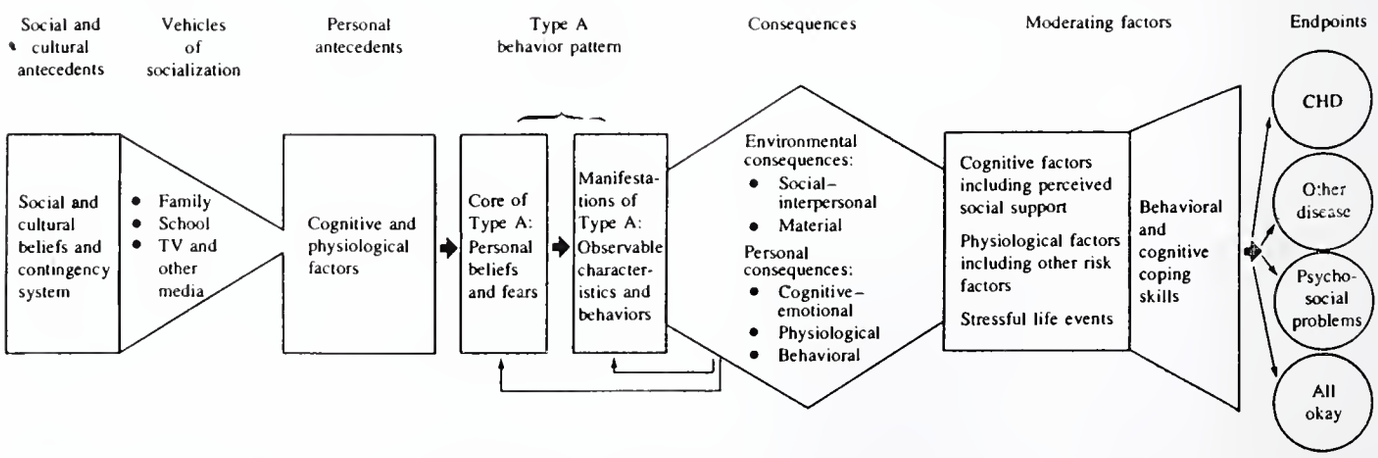


Figure 3.

Proposed cognitive social learning model of Type A behavior pattern. (From Price, V. A., Type A Behavior Pattern, A Model for Research and Practice, Academic Press, New York, 1982, pg. 38.)

Type A Behavior in children and hypothesizes that Type A children may have developed extraordinarily high standards as a result of their parents setting vague and ambiguous, yet high standards for their behavior.[23]

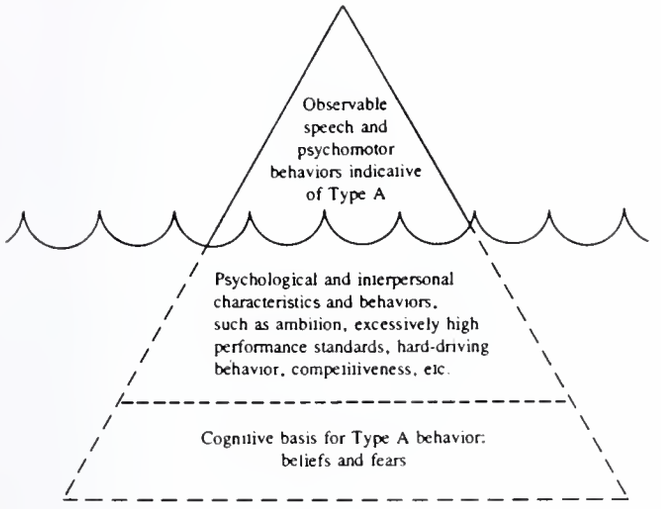


Figure 4.

Comparison of Type A behavior pattern to an iceberg. (From Price, V. A., Type A Behavior Pattern. A Model for Research and Practice, Academic Press, New York, 1982, pg. 66.)

Work "Overload" or Life Stress

Work "overload" or life stress has also been noted to be a factor which is related to the development of CAD.[1,14] Excessive workload, job responsibility, and job dissatisfaction have been shown to enhance coronary risk.[4] Employed women with three or more children are twice as likely to develop CHD as working women with no children. This is especially true for clerical workers who have less help with child care.[25]

A prospective study of the psychosocial influences on mortality after myocardial infarction was undertaken in 2,320 males who participated in the Beta-Blocker Heart Attack Trial (BHAT).[26] When other important prognostic factors were controlled for, patients classified as having a high degree of life stress had a significantly greater three-year mortality after a myocardial infarction than individuals with low life stress. In addition, the presence of the combination of high life stress and high social isolation had more than four times the risk of death at three-year follow-up than low levels of both stress and isolation. High levels of stress and social isolation were most prevalent among the least-educated men. See Figure 5 for a graphic depiction of these findings.

Social Support

Cobb has described social support as information leading a person to believe he is being cared

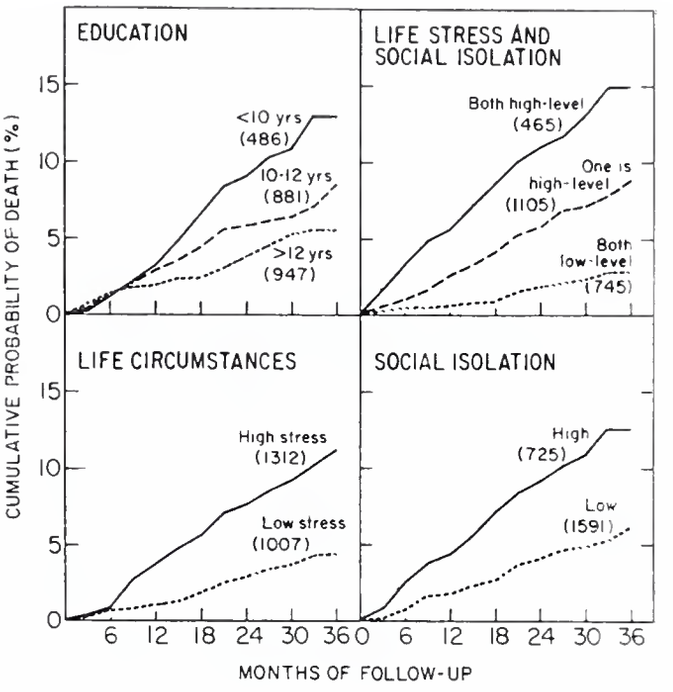


Figure 5.

Life-Table Cumulative Mortality Curves for the Health Insurance Plan—BHAT Male Survivors of Myocardial Infarction Who Completed the Psychosocial Interview, According to Levels of Education, Life Stress (Life Circumstances), and Social Isolation. (From Ruberman, W., Weinblatt, E., Goldberg, J. D., and Chaudhary, B. S., N.E.J.M. 311:555, 1984.)

for, loved, and an esteemed member of a network of mutual obligations.[27] Supportive interpersonal relationships are thought to moderate the effects of life stress on health and illness.

Several studies have found an association between measures of social support and endpoints of coronary artery disease. The results form the BHAT study are described above under Work "Overload" or Life Stress. In a large prospective study of Israeli men, "love and support" of one's spouse was associated with a lower incidence of angina.[28] Low scores on a measure of intimate social relationships predicted the incidence of nonfatal MI in men of Japanese descent followed in the Honolulu Heart Project.[29] Results from the Framingham study indicated that, for female clerical workers, having a nonsupportive boss was a significant and independent predictor of the development of coronary heart disease.[25]

Social Support also may influence the relationship between the Type A Behavior Pattern and CAD. Price has demonstrated that Type A's as a group frequently lack gratifying interpersonal relationships.[24] Recently, it has been reported that a supportive social network mitigated the effects of Type A behavior on the extent of coronary artery disease.[30]

More research is needed in this area to clarify

the relationship between social support and the development of CAD.

Chronic Disturbing Emotions

The evidence linking chronic emotional states and the pathogenesis of CAD is not very strong, but it appears that chronic anxiety, depression, and "neuroticism" are associated with an increased incidence of angina and sudden death.[1,31]

Acute Situational Disturbance

Stressful life events have been associated with increased risk of CAD events though most studies in this area are flawed by retrospective design. There does appear to be an increased risk of CAD among widows and widowers in the first two years after the death of a spouse.[1,32]

There are a number of studies which have demonstrated a connection between sudden death and acute disturbing life-events.[1] For example, Reich et al. found that the onset of malignant ventricular arrhythmias were associated with identifiable emotional triggers in 21% of patients referred for antiarrhythmic management.[33]

Lown has developed a model for the development of life-threatening ventricular fibrillation which depicts the interaction of three factors: (1) ventricular electrical instability, which is increased in the presence of ischemic heart disease; (2) psychologic state, (i.e. depression, and perhaps TABP); and (3) triggers, which include emotional events, public speaking, automobile driving and other acute stresses.[34] This model is schematically depicted in Figure 6.

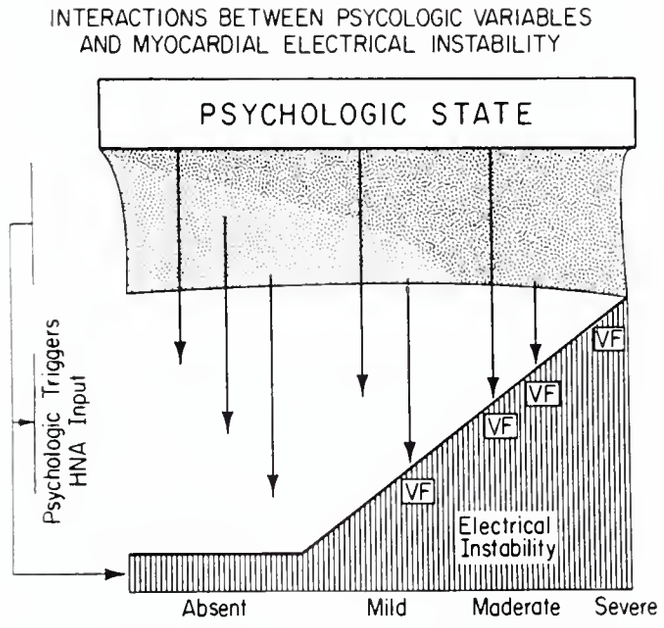


Figure 6.

(From Lown, B., DeSilva, R. A., Reich, P., and Murawski, B. J. Psychophysiologic factors in sudden cardiac death. Am. J. Psychiatry 137:1325-1335, 1980.)

Socioeconomic Disadvantage

The evidence that socioeconomic disadvantage is associated with the incidence of CAD is a bit scanty.[1,31] However, the recent prospective BHAT study described earlier also provided evidence that low educational level, when compared with high educational level, was associated with three times the risk of death three years after a myocardial infarction.[26] High levels of stress and social isolation were most prevalent among the least-educated men and least prevalent among the best-educated men.[26]

Life-Style Risks

Finally, though they are not usually thought of as psychologic factors, life-style factors such as smoking, diet and exercise pattern are clearly related to CAD risk.[1] The most important of these is cigarette smoking, which is considered the single most important modifiable risk factor for CAD.[35] Cigarette smoking also acts synergistically with other traditional risk factors such as hypertension and high blood cholesterol to increase CAD risk.[35] Smoking cessation is associated with decreased morbidity and mortality from CAD and the benefits gained from cessation become evident soon after cessation.[35] A recent study reported that the risk of a MI for cigarette smokers decreases within two years of quitting to a level similar to that in men who have never smoked.[36]

A recent study of the benefits of various interventions on CHD mortality between 1968-1976 found that 54% of the estimated decline in mortality were attributed to changes in life-style.[37]

PSYCHOLOGICAL REACTIONS TO MANIFESTATIONS OF CORONARY ARTERY DISEASE

It has been estimated that 1.5 million people will have a myocardial infarction (MI) each year in the United States, and one million will survive the acute event.[38] A number of authors have described psychological and psychiatric reactions to myocardial infarction.[39-46] I will briefly review this literature as an example of psychological reactions to manifestations of coronary artery disease.

Psychological reactions occur during the three main phases of a myocardial infarction: the prehospital phase, the hospital phase, and the rehabilitative or post-hospital phase. The psychologic reactions occurring frequently in each of these phases are listed in Table 3. These will be de-

scribed in this section. Psychological and psychiatric interventions that have been shown to be useful in patients with a MI will be described in the following section.

TABLE 3
PSYCHOLOGICAL REACTIONS TO MYOCARDIAL INFARCTION

I. Prehospital Phase
   Delay

II. Hospital Course
   Anxiety
   Depression
   Delirium
   Behavioral problems

III. Rehabilitation
   Anxiety
   Depression
   Sexual dysfunction
   Chronic illness behavior

Prehospital Phase — Delay

Delay between the onset of the symptoms of a myocardial infarction and arrival in the hospital is an important factor which accounts for a significant portion of the mortality from a MI. Though the average delay time is three to five hours, more than a third of the patients arrive more than 6 hours after symptoms begin.[39,46,47] Delay is not related to socioeconomic factors, or prior history of an MI, but is related to denial, the tendency to ignore or minimize the true meaning of the condition.[46,47] Some investigators have found that Type A's are more likely to minimize symptoms, especially if they are involved in a challenging task.[48,49] The presence of family members or friends at the time that symptoms occur decrease delay time.[39,46,47]

Hospital Course

Cassem and Hackett have described the typical course of psychological symptoms after admission to a coronary care unit.[50] This is depicted graphically in Figure 7. Anxiety is fairly ubiquitous during the first 24 hours, especially just after admission. *Anxiety* usually subsides as the patient feels secure with the knowledge that he is being monitored closely. Denial, which is hazardous during the prehospital phase, may actually protect the patient during the CCU phase as it serves to reduce anxiety and associated cardiovascular stimulation.

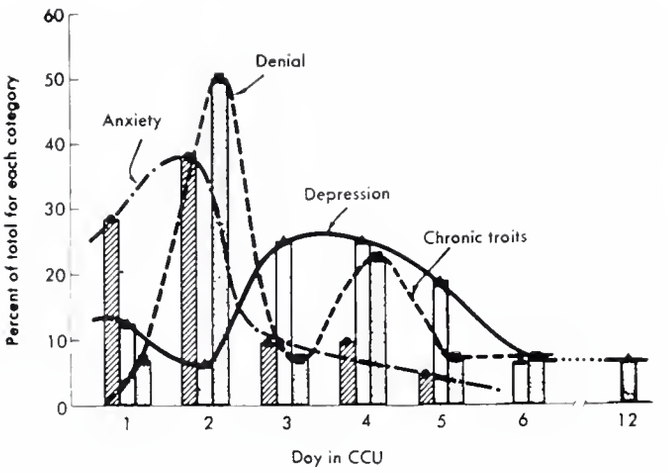


Figure 7.

Hypothetical sequence of emotional and behavioral reactions of a coronary care unit (CCU) patient, derived from the frequency of psychiatric consultation for each category of reaction. (From Cassem, N. H., and Hackett, T. P. The setting of intensive care. In: MGH Handbook of General Hospital Psychiatry, Hackett, T. P., and Cassem, N. H., (Eds.), C. V. Mosby Co., St. Louis, 1978.)

Behavioral problems also are frequent in the hospital setting. Denial, accompanied by impatience and intolerance for restrictions on activity, may lead to struggles with the staff and occasionally a desire to sign out against medical advice.

Depressed mood and ideation becomes more prominent after the third hospital day when denial begins to diminish and patients become more aware of the implications of their infarction. In most patients this reaction is self-limited and does not require pharmacologic intervention. Beta-blockers may also contribute to the development of depressive symptoms, especially if lipophilic drugs, such as propanolol are utilized.[51,52]

Delirium is common in the CCU, especially in elderly or demented patients receiving narcotics, lidocaine or other antiarrhythmics.[53] Overzealous use of anxiolytics or hypnotics may also precipitate a delirium in susceptible patients. Delirium is characterized by clouding of consciousness, impaired attention, perceptual disturbances, agitation and disruption of the sleep-wake cycle.[54] Delirium is important to recognize and control after a MI since associated agitation may lead to increased demands on the cardiovascular system and may increase the risk of complications. The inability of the delirious patient to fully cooperate with treatment also puts him/her at increased risk.

Rehabilitation

This phase is arbitrarily defined as beginning after discharge from the hospital, though rehabilitative efforts often begin while the patient is still in the hospital. The first month after returning

home from the hospital is often a difficult time for the patient and his/her family. *Anxiety, depression, fear* of recurrence of symptoms with activity or sexual arousal, weakness and sleep disturbances are common.[39-46] Approximately 10-20% of patients who have an MI will experience a prolonged depression that meets the diagnostic criteria for a major depressive episode according to the American Psychiatric Association's Diagnostic and Statistical Manual III.[40,54,55] These usually require specific treatment with an antidepressant, to be discussed in the following section. Depressed patients, if untreated, will have increased disability one year after infarction.[40,43,54]

Sexual dysfunction and psychological distress in the spouse are also common sequellae of a myocardial infarction.[39-41,43,44,46] The spouse's anxiety and fear about recurrence of a MI may lead to overprotectiveness and both spouse and patient may avoid sexual contact. If the patient has developed depression, associated symptoms such as a decrease in sexual interest, irritability and social withdrawal may strain marital and other family relationships. Beta-blockers and other antihypertensive medication may also effect sexual function.[51] A small minority of patients develop chronic disability which is out of proportion to their level of physiologic cardiac dysfunction. This may initially stem from fear of provoking recurrence of cardiac symptoms. A spouse may reinforce "illness behavior" because of fear, misunderstanding or overprotectiveness. If the patient does not want to return to work or some other responsibility or if they begin to receive disability, illness behavior is reinforced. This condition, sometimes called "cardiac invalidism" is similar to chronic pain syndromes.[46]

PSYCHOLOGIC AND PSYCHIATRIC INTERVENTIONS IN PATIENTS WITH CORONARY ARTERY DISEASE

In this section, I will briefly discuss psychologic and psychiatric interventions that have been found to be helpful in patients with coronary artery disease. The reader is referred to several reviews which describe such interventions in more detail.[39-41,43-46]

Prehospital Phase — Delay

Educational efforts to help both patient and family learn about the signs and symptoms of a MI are likely to diminish delay in seeking medical attention. Counseling a Type A individual to seek medical attention quickly because it will help his/her family might diminish his/her tendency to continue to work or perform other activities despite symptoms.

Hospital Course

Supportive care, education and reassurance provided by emergency room, CCU and other hospital staff are quite useful in helping to diminish the anxiety that is ubiquitous during the first hours and days after a myocardial infarction. Anxiolytics are also useful during this phase. I have found that relaxation training is effective in reducing patients' anxiety and increasing their sense of control, but the effectiveness of relaxation training in this setting has not been tested emperically, to my knowledge.

While the patient is in the CCU we do not attempt to confront denial as it may be helping the patient to manage anxiety.[39,42] However, if denial persists during convalescence, it may then interfere with patients compliance with medical treatment and may decrease the likelihood of making appropriate lifestyle changes.[42] In these situations, gentle confrontation, education, and enlistment of family members may be helpful.

Depressive symptoms in the hospital will also usually resolve with supportive care and as the patient increases his/her activity. However, as noted in the previous section, some patients will go on to develop the signs and symptoms of a major depressive episode. These patients will usually need pharmacologic intervention. Before initiating such treatment it is important to consider whether any medications or concurrent medical conditions may be contributing to depressive symptoms. Others have reviewed the assessment of depression in the medical setting which is beyond the scope of this paper.[56] As noted above, lipophilic beta-blockers may cause depressive symptoms and should be discontinued, if possible. Less lipophilic beta-blockers, such as atenolol or nadolol, or calcium channel blockers may be substituted. If symptoms have persisted for more than two weeks, if there is no evidence for an organic cause for depression, and if the criteria for a major depressive edisode are present, an antidepressant medication should be used, especially if several neurovegetative symptoms such as sleep, appetite or psychomotor disturbance are present.[46,57,58] Though there is some risk associated with the use of antidepressants in

the post-MI period, especially if a cardiac conduction disturbance is present, pharmacologic therapy can be utilized safely if an appropriate drug is chosen and precautions are taken.[46,57-60] Electroconvulsive therapy can also be administered safely in the cardiac patient.[57,58,61] Psychiatric consultation with an experienced consultation-liaison psychiatrist is recommended. Minor depressive reactions may respond to brief supportive therapy or rehabilitation efforts to be described below.[43,46]

If delirium develops, it is treated by removing offending medications and the treatment of any underlying medical conditions which may be contributing. Psychologic management includes reorientation, reassurance, support and restraint, if necessary. Neuroleptics are often needed until the etiologic condition can be reversed. Haloperidol has been recommended as the safest neuroleptic in the setting of an acute MI.[46]

Behavioral disturbances, such as wanting to sign out or failure to comply with activity restrictions, have to be assessed individually. A psychiatric consultation is usually helpful and should be pursued before a patient is permitted to sign out of the hospital against medical advice. An approach which recognizes the patient's distress, provides personal support, and enhances the patient's sense of control is often effective.[46]

Rehabilitation

The treatment of anxiety and depression after discharge from the hospital follow the same general principles described in the discussion of psychiatric interventions in the hospital above. Brief supportive psychotherapy, in a group or individual setting, has been shown to improve psychosocial outcome.[40,43,46] Early intervention is felt to be important.[39,43] An exercise training program significantly increases functional capacity and improves short-term, but not long-term psychosocial adjustment.[39,40,43,46,55] The use of the pre-discharge exercise tolerance test to prescribe specific activities has been advocated as an effective way to enhance recovery.[39,46,55] Family meetings and inclusion of the spouse in the rehabilitation program will help to reduce the family members' distress and may decrease the likelihood of sexual dysfunction, chronic disability and marital discord.[39-41,44,55] If sexual dysfunction or depression develops during this phase, the possible contribution of cardiac and antihypertensive medications should be assessed.

Recently, Frasure-Smith and Prince reported results from a life stress monitoring program, which administered monthly telephone interviews to patients for one year after their myocardial infarction.[62] When stress was found to be high, various active interventions were instituted. The treatment group had a 50% reduction in one-year mortality compared to controls.[62]

Friedman et al. recently reported that modification of TABP in post-MI patients, utilizing an intensive group counseling approach, reduced the rate of recurrent cardiac events by 50% (from 13% to 7.2%).[63] The control group received cardiac counseling alone. Replication of this study is required before widespread attempts to modify Type A Behavior in patients with cardiac disease are undertaken. As noted above in the section describing the cardiovascular risk associated with TABP, recent epidemiologic studies have not found Type A Behavior Pattern to be a risk factor for the development of recurrent coronary events.[9-12]

Attention to life style risks is another important aspect of cardiac rehabilitation. As noted previously, smoking is the single most important modifiable risk factor for CAD and continued smoking after a MI increases increases the risk of recurrent MI and sudden death.[64] Smoking cessation strategies have been the subject of a number of recent reviews.[65-67] Though professionally led, clinic-based programs are most effective, physicians can play a very important role in promoting smoking cessation efforts among their patients. Nicotine gum is a prescription drug which is effective as a smoking cessation strategy, especially when proper instructions about use are provided and when it is used as an adjunct to clinic-based treatment.[68] The use of nicotine gum as an adjunct to physician advice against smoking has been estimated to be 10 times more cost-effective than prescribing antihypertensives for moderate hypertension and 100 times more cost-effective than prescribing lipid lowering agents to men with elevated serum cholesterol.[69] In addition to smoking cessation, model rehabilitation programs, such as the one at Stanford, also provide regular medical and psychological evaluation, treadmill exercise testing, an exercise program, education and stress management, telephone monitoring and identification and referral of patients needing psychiatric counseling.[55] Families are often included in the program to help bolster the patient's support network. Programs

such as these are likely to promote physical and psychological well-being after a MI and decrease the likelihood of patients developing chronic illness behavior or disability.

Thus, although serious psychological reactions to myocardial infarction are common, early intervention and rehabilitation can mitigate psychologic distress and perhaps decerase long-term cardiovascular morbidity and mortality. Reduction in morbidity and mortality is especially likely if life-style risk factors are altered in a positive direction as a result of the rehabilitative effort.

This discussion of psychiatric and psychologic intervention strategies has focused on the rehabilitation of the patient who develops clinical manifestations of CAD. In closing, it is important to mention primary prevention of coronary heart disease. Indentification of the psychologic risk factors discussed in the initial section of this paper has led to the development of community-wide risk reduction programs which are currently being tested in large controlled trials. It is hoped that these behavioral and psychologic interventions will promote further decline in CAD incidence and mortality in this country.

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Incidence of Chlamydia Trachomatis in the Female Student Population at the University of Arkansas/Fayetteville

Kent Estes, M(ASCP)MS, Shirley Robertson, MT(AMT), Jan Sanders, CLA(ASCP), and R. Douglas Vanderpool, M.A.*

INTRODUCTION

Chlamydia has emerged as the most prevalent organism involved in sexually transmitted diseases (STD) in the United States and has been shown to be an important cause of nongonococcal urethritis (NGU), epididymitis and proctitis in men and mucopurulent cervicitis, urethritis and salpingitis in women.[1,3] In both sexes the *Chlamydia* infection may be asymptomatic.[4] Untreated, whether asymptomatic or not, the patient is infectious and can transmit the organism to a sexual partner.

With the known sequelae of *C. trachomatis* and the reported incidence in college age population ranging from 5-20%[11] and the occurrence of chlamydial infection exceeding the reported gonorrhea infections by a factor of five,[12] an effort was made to determine the rate of chlamydial infections in those sexually active patients presenting to the Women's Health Clinic at the Student Health Service at the University of Arkansas/Fayetteville for the period covering January through April, 1986 (inclusive).

Chlamydia presents a particular problem to the female due to the microbiology of the organism and the physiology of the female reproductive system. Several studies have shown that permanent tubal dysfunction causing infertility can follow acute salpingitis. These studies have shown that women who have had PID have a four to seven-fold increased risk for infertility.[5] In addition to being more prevalent than gonococcal infections, chlamydial infections have a more severe clinical outcome.[6] Svensson reported that compared to patients with gonococcal salpingitis, patients with chlamydial salpingitis have a less acute presentation, have a longer history of symptoms and more tubal inflammation.[6]

In addition to the adult population, children born to infected mothers are at high risk for inclusion conjunctivitis and pneumonia with or without otitis media. Approximately 30% to 50% of infants born to women with a chlamydial infection of the genital tract will acquire infection during delivery.[2]

MICROBIOLOGY OF CHLAMYDIA

The chlamydiae are a group of pathogenic organisms that infect animals and man. There are two species within the genus *Chlamydia*: *C. psittaci* (primarily an animal pathogen) and *C. trachomatis* (primarily a human pathogen).[4] The chlamydiae are obligate intracellular organisms closely resembling to gram negative bacteria. *Chlamydia* can not synthesize ATP and thus they depend on the host cell for energy.[7] Chlamydiae are not viruses, they contain both DNA and RNA and have a distinct cell wall with an outer membrane.[8] *C. trachomatis* has also been shown to have 15 serotypes.[9]

The organism cycles between two forms, the infective form called an elementary body, and the metabolically active form called the reticulate body. The elementary body initiates the infection of a susceptible cell. It is small, with a diameter of 300 microns, and is also able to exist outside the host cell in a dormant form. The reticulate body is larger (approximately 900 microns), round, and can exist only inside the host cell. Like bacteria, this form has the capacity for metabolism of carbohydrates, for protein synthesis and for reproduction by binary fission. The host cell — *Chlamydia* infectious cycle is described:[9,12]

1. First, a viable elementary body adheres to the cell membrane at a specific receptor site on susceptible columnar epithelial cells (such as those found in the cervix). The host cell forms a pouch and phagocytosis into the cell occurs.
2. After approximately six hours the elementary body matures to form a reticulate body.

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During the next 18-24 hours the reticulate body engages in metabolism, protein synthesis and reproduction by binary fission. During this phase a classic "inclusion body" is formed within the host cell.

3. Between 30 hours and 48 hours post-infection, the reticulate bodies (and daughter cells) recondense into elementary bodies filling the inclusion body. The inclusion body then ruptures releasing new infectious elementary bodies. These new elementary bodies can in turn cause infection of new host cells (auto-infection) or may infect columnar epithelial cells of a sexual contact.[4]

Depending upon the serotype involved, the infection may be local or disseminated; acute or chronic; mild or severe. Repeated infections of the same area can cause destruction of normal tissue resulting in scar tissue formation.[10]

MATERIALS AND METHODS

To survey the student population without a bias, only females were asked to participate to include potential positive results in asymptomatic patients. Patients presenting for their annual pelvic exam that met the pre-established criteria were included in the study.

Acceptance for the study was based on: 1) potential exposure to the organism by an affirmative answer to the question, "Have you *ever* had sexual intercourse?", 2) absence of *any* antibiotic treatment (either oral or vaginal) in the past 7 days, and 3) consent. Answers to all questions and laboratory findings were kept confidential. Patients found to be positive for *Chlamydia* were notified to return to the Women's Clinic and were treated for the infection.

Determination for the presence of *Chlamydia* was accomplished by the direct visualization of the elementary bodies using a fluorescein-labeled (FITC) monoclonal antibody reagent. Collection of the specimen was carried out using materials supplied in the collection kit, following procedures recommended by the manufacturer.

Specimens were collected by a specifically trained medical doctor or family nurse practitioner using the following method:

1. After preparation of the patient for the pelvic examination, the outside of the cervix and cervical os were cleaned with swabs until the cervical os was mucus free.
2. After cleaning the cervix, a Dacron swab, supplied in the collection kit, was inserted through the os into the cervical canal until the tip of the swab was no longer visible.
3. The swab was rotated to dislodge columnar epithelial cells which will contain the elementary bodies, if present. The swab was allowed to remain in the canal for a few seconds, then removed.
4. The microscope slides supplied in the collection kit were prepared by rolling the swab onto an 8 mm circular area designated for application of the specimen.
5. The specimen was allowed to air dry and was then fixed with fresh acetone. Upon receipt of the specimen in the lab the slide was then stored until staining.

The daily collections of slides were stained and read each afternoon to allow for timely reporting of results. Staining was accomplished using fluorescein-labeled monoclonal antibody stain and slides were read in a darkened room using a Zeiss epifluorescent microscope with a 50 watt mercury vapor lamp with an FITC filter set. The slides were scanned at 400X (oil) and confirmation of elementary bodies were made at 1000X (oil). Zeiss immersion fluorescence oil was used.

RESULTS

Using the above described materials and methods, the slides were viewed looking for individual pinpoints of medium to bright apple-green fluorescence on 400X (scan). Confirmation was made by examining the object at 1000X and observing evenly fluorescing, smooth-edged, disc-shaped elementary bodies.

The following criteria were used in reporting:

1. *Positive*: A minimum of 5 typically stained elementary bodies per slide were observed.
2. *Suspicious*: Less than 5, greater than 1 typically stained elementary bodies per slide were observed.
3. *Negative*: No elementary bodies observed; at least 10 counter-stained (reddish-brown) columnar epithelial cells observed per slide.
4. *Presumptive negative*: No elementary bodies observed; inadequate (< 10) columnar epithelial cells observed per cell.

Of the 461 patients in the 4 month study, Table 1 summarized the disposition of those cases.

TABLE 1

	Number	Percent
Positive	41	8.89
Suspicious	6	1.30
Negative	406	88.06
Presumptive negative	8	1.73
Total	461	100

Of the 41 patients presenting with a positive *Chlamydia* specimen, 14 (34%) were asymptomatic.

DISCUSSION

As presented in the data and reviewed in the literature, chlamydial infections pose a significant health hazard to sexually active patients such as is found in a college population. In the absence of specific antichlamydial treatment, the infection can become asymptomatic and spread to other parts of the reproductive system and be spread to other persons.[11]

Until recently, simple methods for specific diagnosis of chlamydial infections were lacking and treatment was nonspecific. Finding a rapid screening test for *C. trachomatis* has been a major goal of health care providers.[11] To compare the results of the University survey with other similar population, two reported studies are summarized.

TABLE 2*

Patient Population	No. Positive / No. Tested	Percent	Year
Health Clinic in a large university	20 / 439	5%	1979 1979
Family planning clinics (4 clinics in varying demographic areas)	268 / 2,729	9.8%	1983

*Emmons and Courtner

CONCLUSIONS

With a 20% infertility rate following infection with *Chlamydia* and a 20% treatment failure rate with conventional nonspecific therapy,[12] and the availability of an accurate and inexpensive screen for *Chlamydia* using the direct fluorescent antibodies, "mass" screening should be considered for high risk population.

Recently, the Center for Disease Control issued guidelines for "mass" screening with the following groups suggested as high risk:

1. Women visiting VD clinics who would ordinarily be treated for gonorrhea.
2. Individuals with symptoms that suggest *Chlamydia*.
3. Health-care facilities that may also have a high prevalence of *Chlamydia* infections, such as centers for student health or family planning.

Our experience at the University of Arkansas Student Health Service laboratory is that the direct fluorescent antibody method of identifying positive chlamydial infections provide the health care practitioner with a rapid, accurate and cost effective method of screening patients for the presence of *Chlamydia*. Commonly utilized therapy for these positive patients was Doxycycline 100 mg b.i.d. X 7 days. Test of cure specimens were collected and evaluated with no treatment failures identified.

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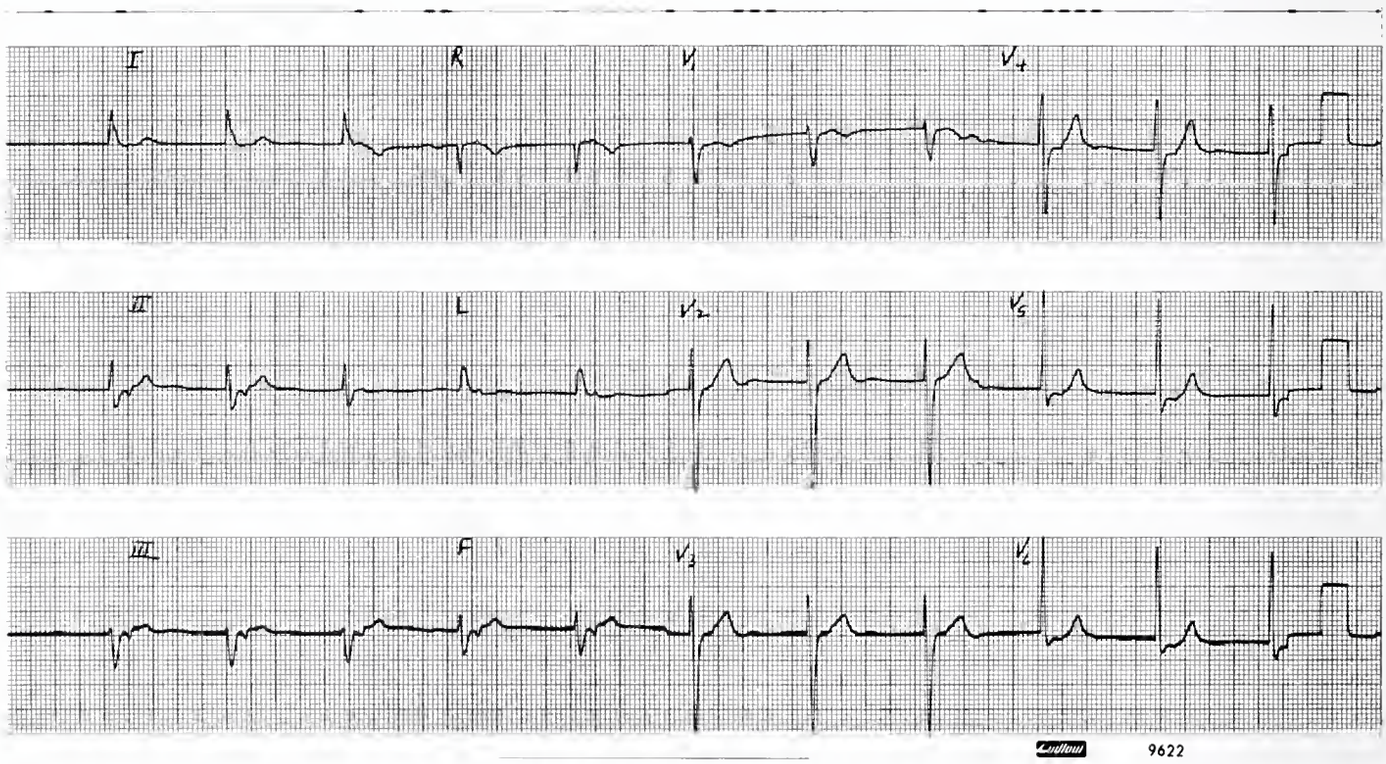
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ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See **Answer on Page 223**)

HISTORY: G. D. is an 80-year-old man presenting for evaluation of vertigo. He experienced a syncopal episode one month prior to presentation. His physical examination revealed a normotensive man with no "a-waves" in his neck veins. What do you think of his electrocardiogram?



Robert Taylor, M.D., and John W. Watson, M.D.
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Health Fraud in Arkansas

Don Phillips, P.D., M.P.A.*

The Division of Pharmacy Services, Arkansas Department of Health, is the principal consumer protection agency in the area of drugs, cosmetics and medical devices in the state of Arkansas.

Among the many state regulatory agencies, no other touches the day-to-day life of citizens so directly in this area. Most people take for granted the truth of the label on a bottle of medicine, the safety of a cosmetic, and the efficacy of a medical device. It is the goal of the State Health Department to see that this confidence is warranted by ensuring industry's compliance with state laws regulating drugs, cosmetics and devices in commerce.

In the simplest terms, the provisions of these laws and regulations are intended to ensure that drugs (both human and veterinary), biological products (e.g. vaccines and blood for transfusion), and medical devices are safe and effective; cosmetics are safe; and all of these products are honestly and informatively labeled.

The Division of Pharmacy Services, Arkansas Department of Health's authority is derived from laws passed by the Arkansas legislature and assigned to the Arkansas Department of Health. The Division of Pharmacy Services has been delegated the responsibility to implement these laws.

The Division of Pharmacy Services is responsible for enforcing a number of statutes, but four are especially important: the drug, cosmetic and device portion of the Arkansas Food, Drug and Cosmetic Act (Ark. Acts 1953, No. 415); the Arkansas Controlled Substances Act (Ark. Acts 1971, No. 590); the Arkansas Drug Abuse Control Act, (Ark. Acts 1967, No. 492); and the Arkansas Uniform Narcotic Drug Act (Ark. Acts 1937, No. 344).

The major operations of the Division of Pharmacy Services reflect the strategies inherent in the laws the agency enforces. These strategies are: (1) to make every effort to prevent problems which would expose the public to hazards; (2) to monitor the marketplace, and ensure compliance with the laws and regulations; (3) to correct identified problems in the distribution of products; and (4) to punish violators if it is appropriate (the laws enforced by the Health Department provide the legal means to accomplish these goals); and (5) to work cooperatively with other government agencies in inspection, enforcement and solutions to technical problems.

CURRENT PROBLEMS OF HEALTH FRAUD

Bogus remedies and quackery are big business in the United States. A new report issued by the health and long-term care sub-committee estimates that $4-5 billion a year is spent on cancer remedies of no proven value. Another $2 billion goes to worthless "cures" for arthritis, and $3 billion more for other odds and ends. It is also estimated that at least $10 billion is spent on diet products and gimmicks.

It is reasonable to believe that advertising claims in these areas are false or at least unsubstantiated.

Government controls have not eliminated advertising of quack remedies partly because the relevant legislation still has loopholes, and partly because enforcement, which has to be carried out case by case, is costly and time consuming.

In a national press release issued by the FDA, the Commissioner, Frank E. Young, M.D., called health fraud "a national disease that often uses false or misleading statements in advertising to snare its victims. The fraud is the same whether it is found in the back pages of a magazine or between segments of a TV movie."

Among the bogus products cited as current frauds are "miracle" weight reducers, herbs and

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health foods sold with claims to remedy disease, body wraps, sex aids, arthritis and cancer "cures," simplistic tests for diet deficiencies and allergies, anti-aging products, sobriety aids, and multi-purpose elixirs and treatments.

Claims cannot be made that foods, diet supplements, herbs or vitamins alone can prevent, cure, or treat illness. Neither can ingredients such as rutin, inositol, bioflavonoids, and amino benzoic acid have nutritional value.

In order to protect the health of the citizens of Arkansas from the potential harmful effect of the misuse of such products and to discourage the dispensers, dealers, and producers of these products, it is necessary for the Division of Pharmacy Services to investigate complaints involving the distribution of these products. If it is substantiated that illegal claims are being made, the division advises those responsible that the continued sale could subject them to criminal and/or civil injunctive action according to Arkansas law and would subject the distributor to seizure and condemnation.

EXAMPLES OF PRODUCTS AND CLAIMS MADE FOR THEIR USE CURRENTLY BEING PROMOTED FOR SALE IN ARKANSAS

Fraudulent advertising can often be recognized by the following signs:

- Use of words like "miracle," "cure," or "breakthrough"
- Failure to identify the ingredients
- Claims to have support from unnamed experts
- Sales made only through the mail or door to door
- Broad claims of effectiveness for a variety of conditions
- Emphasized opposition or disapproval by the medical profession
- Testimonials from people who were "cured"
- Vague allusions to "published research"

Some of the products being offered for sale in Arkansas are listed here, along with their "claims."

Ultra C Complex (1000 mg Vitamin C plus Bioflavonoids, Rutin, and Hesperidin)

"Helps prevent hemorrhaging, bleeding gums, eczema, and rheumatism. Pregnant women take it to help prevent miscarriage. Everyone knows how important C-Complex is in the prevention and treatment of the common cold."

250 Tablets $24.95

Amino Herbal Brain Fuel (L. Glutamine, Choline, Pantothentic Acid, Chlorella, Spirulina, Plygonum Multiflorum, RMA, and Beta Carotene)

"No matter your age, there's no need to put up with memory loss any longer. Helps to sharpen your mental clarity and alertness. It supplies the nutrients lost by biochemical deficiencies and enables nerve cells to function properly."

120 Capsules $29.95

Po Chai Pills (A legacy that adds to Mother Nature's food)

"Herbs from the mountains of Canton, rids the gastrointestinal system of unwelcome agents, regulates the digestion and fights off common ailments, beautifies the complexion, treats diarrhea, nausea, motion sickness, menstrual cramps, and even makes 'the morning after' bearable."

40 Pills $19.95

Megavital H.P. Forte (Balances the metabolism, supplies RNA, and provides anti-oxidants to delay aging)

"Now legal in the U.S.A. Parallels the compound GH3 in Gerovital by breaking down the prescription portion into non-prescription subcomponents. Supplies RNA and anti-oxidants and gives the body nutrients to regain lost energy."

100 Tablets $29.95

Vita-Lite (Full spectrum light) (Like the sun)

"Nature's true light including essential Vitamin D. You will never have to worry about calcium deficiencies in your diet again (especially important to women). Less fatigue, improves visual acuity, feel better. Hospital tested, 100% safe."

24" (15 Watt) $29.95

Diet Mate (Contains Theophylline)

"Takes water out of fat cells, literally killing those cells. 100% safe, flushes fat away immediately."

84 Tea Bags $29.95

Energy Now (Guarana, Ginseng, Cayenne, Futi, Gotu-Kola, Papaya, Wheat Grass, Fructose, Vitamin C, and Niacin)

"It isn't caffeine; it's a space age formulation with no chemicals or additives. Gives energy you need to stay bright, alert, and vigorous."

72 Tablets $29.95

35 Plus (Biochemicals associated with the famous Gerovital H3)

"The world's most famous life extension

product; Juvenescent RNA, the key to cellular development; antioxidants to lengthen cell life; glandular concentrates, Choline, which declines in the brain as people age, and key vitamins and minerals."

100 Capsules $19.95

Acupuncture Pants (Jockey short or bikini style)

"Each pair has a powerful 10,000-gauss magnet sewn permanently into it in precisely at the key acupuncture point controlling your energy, sex ability and who knows what else."

1 Pair $24.95

Biotel Hair and Nail Vitamin-Mineral Supplement

"Hair will be more luxurious and nails in the best condition ever."

60 Capsules $19.95

Androgel Executive for Men (High potency fermented bee pollen and Rogal jelly)

"Add to sexual performance and overall health. In clinical tests in Europe, 72% significantly improved general fitness, 58% improved sexual performance and interest, 55% increased sperm count."

60 Capsules $19.95

Maximum Life Ex-Span-Sion (Megadoses of vitamins plus anti-oxident amino acids, Selenium, Choline, Orotate, many minerals, and the wonder-nutrient PABA)

"A complete system to fight aging and its degenerative effects, enhance cell function, protect vital organs, and literally "feed" brain tissue to counteract the gradual slow-wittedness we often associate with old age."

300 Tablets $29.95

Sanbelios Prosta Caps (Special formulation provides nutrients that seem to be missing or deficient when prostatis is either present or even developing)

"Head off surgery by taking Sanbelios Prosta Caps."

96 Capsules $24.95

Rocket Fuel (Contains bee pollen, Ginseng, Gotu Kola, Fu-ti, Sarsaparilla, licorice, Damiana, ginger, cayenne, together in a high potency fluid extract)

"To energize the body, and has its own effect on a specific organ or gland. Have you feeling more alive, sexier, and more energetic."

1 oz. Bottle $29.95

Q-Vel (Contains only natural ingredients such as quinine sulfate, Vitamin E and Lecithin)

"The muscle relaxant and pain reliever for cramps, charley horse, and 'restless leg'."

60 Caps $19.95

Prostex (Composed of pure nutritional factors such as amino acids)

"May be used in cases of benign prostatic hypertrophy, safe non-toxic, cause no side reactions."

Spigelin 6X (Leading remedy for pain and swelling)

"For headaches plus pains in the cardiac region."

Magnesia Phos. 6X

"Relieves headaches and those sore toes."

Chelidonium 2X

"Relieves jaundice with constant pain under right shoulder blade."

Belladonna (0.000325 mgm Alkaloids) 3X

"Great children's remedy, relieves a feverish state with comparative absence of toxaemia."

ANSWER — Electrocardiogram of the Month

DISCUSSION: There are no P waves before the QRS complexes. Retrograde P waves follaw the QRS with R-P interval 0.16 sec. The QRS duration is 0.10 seconds with QRS rate 65/minute. Minor ST-T chonges ore present. Thus, the trace shows a junctianol rhythm with retrogrode atrial octivation and o nonspecific IVCD. His symptoms may not be reloted ta his cordiac mechonism but, an the ather hand, they could be. More informotion is needed.

The editor wishes ta thonk Dr. Taylar of Canway, Arkansas for his assistance in this manth's feoture.

Cancer Management Problems:

Prostate Cancer

Troy F. Barnett, M.D., Dan P. Chisholm, M.D., D. R. Harris, M.D., W. Ducote Haynes, M.D., Fernando Padilla, M.D., and Don I. Scott, M.D.*

PROBLEM

A 67-year-old man presented with prostate cancer for a discussion of his treatment options.

He was found to have a 1.5 cm nodule in the right lobe of the prostate on routine annual examination. He had mild symptoms of prostatism, and he remained sexually active. His past urological history was negative. He had mild hypertension controlled with amiloride hydrochloride (Moduretic). He had had cystoscopy and transrectal needle biopsy of the prostate with general anesthesia. His endoscopic findings were unremarkable. Bimanual examination confirmed the presence of the original nodule and revealed no palpable evidence of extension beyond the prostate. Biopsy specimen revealed that the patient had Gleason's 3-3 carcinoma of the prostate. Thus, this patient had a clinical Stage B1 lesion.

PATHOLOGY REVIEW

Dr. Scott: Pathologists should use some numerical histologic grading system for prostatic adenocarcinoma. The Gleason grading system is gaining favor with pathologists nationwide. It is relatively easy to use and with experience is generally reproducible. The "histologic pattern" of the tumor is graded 1 to 5 (best to worst differentiation). The tumor is given a 1-5 grade for the dominant pattern (by volume) and a 1-5 grade for the less dominant pattern. This is expressed as two numbers, e.g., 3-2, although the combined score (range of 2-10) is the significant grade.

The combined Gleason grade has been shown to correlate with pelvic node metastases at surgery. One study showed 0% metastasis in grades 2-4, 31% metastases in grades 5-7, and 93% metastases in grades 8-10.[1]

Gleason (or any) grading is more accurate on larger volumes (TUR) of specimen than on needle biopsy.

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DIAGNOSTIC X-RAY REVIEW

Dr. Chisholm: Medical imaging procedures offer a positive approach in the clarification of clinical staging and decision making process in the type of treatment to be prescribed for patients with prostatic adenocarcinoma.

Bone scan and IVP are recommended for this early stage, favorable Gleason number workup. Both CT scans and MRI of the pelvis would be less important imaging procedures since they are not statistically useful in detecting adjacent metastasis but would possibly be useful for serving as a baseline of normality.

SURGERY OPTION

Dr. Barnett: The optimal management of a patient with clinically localized prostate cancer remains a matter of controversy. The options for treatment in this patient are radiation therapy and radical prostatectomy. There is no evidence that any other treatment produces better control of the primary lesion than does total surgical excision of the prostate. In the past, the possible sequelae of urinary incontinence and impotence deterred many patients from selecting this option. Recent modifications of surgical technique (nerve sparing anatomical prostatectomy) have significantly reduced the incidence of these disturbing sequelae. The surgical approach also allows for a more accurate staging as a modified pelvic lymph node dissection would precede the prostatectomy. Radical prostatectomy can be recommended as a very effective treatment with an acceptable morbidity.[2-5]

RADIATION ONCOLOGY OPTION

Dr. Harris: Such a patient as the one described above, in general good health and with very few symptoms, should be treated in anticipation of continued good health, control of the tumor, and minimization of side effects and long-term complications. A small lesion, confined to the prostate, with a low histologic grade of malignancy

can be adequately treated with small fields which would make no attempt to cover all the pelvic lymph nodes, since their incidence of involvement would be low. Small fields would also mean fewer side effects, particularly bowel problems. External radiation would be the sole method of treatment in this region; implants to the prostate are done in combination with external radiation in some geographic areas but probably offer no advantage over external radiation alone and add the risk of surgical procedure. Long-term tumor control requires a dose of approximately 6,500 rads over a period of 6 to 7 weeks. The short-term problems of bladder discomfort, proctitis with diarrhea, and skin reaction usually respond well to medical treatment. There is a low incidence of chronic radiation complications including radiation cystitis, proctitis, and enteritis. A significant complication is impotence, which occurs in 25-50% of the men receiving definitive radiation for prostate cancer.

Five- and ten-year survival rates with radiation compare well with results from other kinds of therapy, including radical prostatectomy, and possibly with fewer long-term side effects or complications.[6-8]

MEDICAL ONCOLOGY OPTION

Dr. Padilla: There is no role for chemotherapy or hormone manipulation on this patient with localized, early stage disease.

CONSENSUS

This patient has localized prostate cancer and should receive aggressive therapy consisting of radical prostatectomy or definitive radiotherapy.

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EDITORIAL

Arkansas Medical Society Resident Physician Section

Todd N. Holt, M.D.*
Guest Editor

On September 14, 1986, the Council of the Arkansas Medical Society approved the application for charter of the Arkansas Medical Society Resident Physician Section (AMSRPS). As president of the newly-formed component society, I feel it is important for physicians in Arkansas to understand why and how we were organized and that we have a genuine desire to become part of the mainstream of the Arkansas Medical Society.

For some years now resident physician training programs have become complicated and intricate. With these rapid changes has come confusion and disorganization. This has made it even more difficult for us to have any control or input into the decisions which will effect our future medical practices. Realizing this, along with the desire to have increased resident physician participation, many state medical societies have formed student and resident organizations. Resident participation in the AMA has grown from 688 in 1972 to over 33,000 in 1985.

In July of this year, David Wroten of the Arkansas Medical Society staff spoke at the housestaff orientation program of the University of Arkansas for Medical Sciences about the formation of a resident physician section in Arkansas. He had been working on this idea for over a year and was looking for interested volunteers to assist in the development of the organization. It was shortly after that that I approached David and offered my assistance to help in this effort. Along with six other volunteers we began the process of developing a membership application, constitution and by-laws, and an informational brochure. At our first formal meeting held on August 26, 1986 in the Arkansas Medical Society offices, we six residents, with David Wroten as our advisor, established ourselves as a group, voted on our constitution and by-laws and elected officers. Elected were Elisia Sinor, M.D., Vice President; Don Phillips, M.D., Secretary-Treasurer; Hershel Garner, M.D., Delegate to the Arkansas Medical Society; Chuck Mason, M.D., Alternate Delegate, and I was elected President. Our first meeting which will be used to establish specific goals and to plan a membership drive is scheduled for early October.

Resident physician groups across the country are now addressing a variety of problems and challenges created by today's changing medical profession. We face new problems with health organization, radical economic changes and legislation, longer and more complicated training programs, and less autonomy as physicians. Through the Arkansas Medical Society Resident Physician Section, we hope to better educate our colleagues on the changing medical environment and perhaps, through our organized efforts and working with the Arkansas Medical Society and the American Medical Association, find solutions to some of these problems.

We are all looking forward as residents as well as physicians to being a part of the Arkansas Medical Society and would eagerly invite any input, ideas, or suggestions that would help us to become a contributing part of the medical community.

* President, Arkansas Medical Society Resident Physician Section.

"From Other Years"*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

Anderson Nettleship, M.D.
(1910-1981)
Pathologist, Scientist and Educator

Aubrey J. Hough, Jr.,* and Glen F. Baker, M.D.**

One of the enduring themes of our popular culture is that gifted men and women, born and reared in relative obscurity, are propelled to positions of great influence and power by forces which not even they fully comprehend. Such an individual was Anderson Nettleship, M.D. Born October 10, 1910 and reared in the shadow of the University of Arkansas Campus, Nettleship was a great-grandson of Hiram Davis, who had homesteaded in Washington County in the 1830's.[1] He was a precocious youth, combining scholarly activities with part-time employment beginning at age 13 cleaning glassware for professors of bacteriology. While still a high school student he demonstrated his leadership potential by closing the Fayetteville Municipal pool after he, in the course of his work, found unacceptably high bacterial counts in the water.[1] After completing premedical work at the Fayetteville campus he enrolled in the Johns Hopkins School of Medicine, from which he graduated in 1935.[3] His mentors for training in pathology read like a Who's Who of the specialty (McCallum at Johns Hopkins, Opie at Cornell, Forbus at Duke and finally, Goodpasture at Vanderbilt in 1938). But even as he entered practice in 1938 with his physician wife at Springfield, Missouri, tragedy struck. Lois Martin Nettleship died suddenly of pneumonia. Shocked by her death, Nettleship gave up his practice and moved to New York City, studying sculpture and painting. He soon returned to laboratory work as an unpaid pathology assistant at Memorial Hospital in New York, where he came into contact with Drs. Fred Stewart and James Ewing, tumor pathologists whose influence is still being felt today.



Ending his self-imposed exile from research, he served as an officer in the United States Public Health Service at the National Cancer Institute in 1942-43. This was followed by appointments as Associate Professor of Pathology at the University of Oklahoma School of Medicine and staff pathologist at the Alexander Blain Hospital in Detroit. By this time he had already made significant contributions to cancer research, most notably his work with Wilton Earle on production of malignant cells *in vitro*.[4]

In 1947 the University of Arkansas College of Medicine called him home to assume the chairmanship of the Department of Pathology. No individual in the history of the Department had been more qualified than Nettleship and hopes were high for his success. He immediately began

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**Professor of Pathology and Associate Dean for Clinical Affairs, College of Medicine, University of Arkansas for Medical Sciences.

to secure extramural research grants[2] and subsequently organized the Medical Illustrations Department[5] in 1951, putting his artistic training to good use. Often overlooked is the fact that he began the residency training program in pathology at the Medical School in 1950, only 14 years after the American Board of Pathology began issuing qualification certificates.

He also served as the first Arkansas State Medical Examiner.[2] His court appearances were highly effective and his use of toxicology resulted in at least one murder conviction in the case of a woman whose poisoning death had been overlooked prior to autopsy.[2] Nettleship was a one man army, serving also as chief pathologist at University Hospital and continuing his carcinogenesis research. Following the death of his second wife, he married for the third time in 1955 to Dr. Mae Nettleship, a pathologist and fellow graduate of the John Hopkins School of Medicine. This began a successful professional association which lasted for nearly three decades.

Unfortunately, Dr. Nettleship was a nonconformist, and his overall pattern of life was quite different from that of the conservative populace of the state. Problems within the University Department prompted him to leave his appointment as Chairman in 1956 and to return to Fayetteville in 1957. There, in association with his wife Mae, he practiced pathology as Chief of the Veterans Administration Hospital Laboratory Service from 1959 to 1973.[6] He also founded the Antaeus Lineal Medical Research Laboratories, where he continued his scientific work.[7] There he also endowed premedical fellowships for over 200 students, many of whom are now practicing medicine in this state.[1]

He was active and innovative to the end of his life, securing an electron microscope for his practice in 1980. He died suddenly on July 23, 1981. History will note his authorship of over 80 scientific publications and his work as a poet and sculptor. Notwithstanding the controversies he generated, his accomplishments were those of a gifted individual and should be remembered by those of us who benefit from his legacy as a physician, scientist and educator.

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MEDICINE IN THE NEWS



PHYSICIANS VOLUNTEER TIME FOR STUDENT ATHLETIC PHYSICALS

Volunteer physicians and school nurses conducted a clinic in August at Hall High School in which 365 female athletes attending school in the Little Rock School district received their physical examinations. The Arkansas Athletic Association requires that all students involved in athletics have the physical before they can participate. Twelve physicians representing private clinics as well as Arkansas Children's Hospital, volunteered their time. School nurses organized the clinic and completed the initial part of the examination by obtaining a brief health history and taking vital signs.

FIGHT AGAINST GLAUCOMA AMONG ARKANSAS ELDERLY

Twenty-eight elderly Arkansas residents might have gone blind from undetected glaucoma if they had not called 1-800-222-EYES, a public service which offers medical eye care to the disadvantaged elderly at no out-of-pocket cost.

The National Eye Care Project, which operates nationwide through a toll-free Helpline, opened in Arkansas February 10. It has received more than 982 calls from seniors in Arkansas who may be suffering from glaucoma and other sight-threatening eye diseases. More than 655 of these callers have made appointments with volunteer physicians and have received treatment, including 28 found to have glaucoma. The project is sponsored locally by the Arkansas Ophthalmological Society and the Foundation of the American Academy of Ophthalmology. Approximately 80% of the ophthalmologists in Arkansas are participating in the project.

"The purpose of this outreach service is to help those elderly citizens who do not have a regular eye physician and who may well have significant, often blinding eye disease," said Michael C. Roberson, M.D., a Little Rock ophthalmologist and president of the Arkansas Ophthalmological Society. "Many of these people have never had an eye examination because they think they can't afford it. If we can get these people in for an exam, in many cases we can prevent them from losing their sight," Dr. Roberson added.

The National Eye Care Project is open to U. S. Citizens or legal residents, age 65 or over, who are not currently under the care of an ophthalmologist, who have no access to one, or who have not seen one within the last three years.

The project helpline, 1-800-222-EYES, is in operation from 8 a.m. to 5 p.m. in all time zones except Hawaii (Hawaii hours are 8 a.m. to 3 p.m.). Nationwide, the Helpline has received more than 90,000 calls from older Americans and has referred over 60,000 to local eye care physicians. More than 70% of those examined have been found to be suffering from glaucoma, cataracts, diabetic retinopathy, macular degeneration, and other debilitating eye diseases.

USE OF ROUTINE CHEST X-RAYS QUESTIONED

Eugene D. Robin, M.D. and Conor M. Burke, M.D. from the Stanford University Medical Center, Stanford, California, recently disputed the utility of routine chest x-ray examination.

In the August 1986 issue of *Chest* (1986, 90: 258-64) they claim that the risks of routine chest x-ray procedures are considerably higher than currently appreciated, while the benefits are negligible.

Currently, chest x-ray examinations are routinely ordered when a patient is hospitalized for almost any reason, often not related to suspected heart or lung disease; as part of a regular (or preemployment) physical examination; during multiphasic screening and campaigns for early detection of lung disease; in patients at high risk for cardiopulmonary disease; and to obtain a baseline for comparison in the event that pulmonary or cardiac disease develops.

The risks of routine chest x-ray procedures, as described by Robin and Burke, are many. As with all medical tests, x-ray examinations are subject to false-positive results, exposing the patient to the risks of treatment with no possible gain. A diagnostic film, even when falsely positive, will lead to additional diagnostic procedures, each with its own risks. If an asymptomatic nodule is

found, it is usually regarded as cancerous. Certain types of cancer do not benefit from early treatment, and the patient suffers needlessly from the knowledge that he has a potentially incurable disease.

False-negative results overlook a potentially treatable disease through technical or, more commonly, interpretive error. The patient is falsely reassured and treatment is either delayed until a future positive x-ray film, or never provided at all.

The increased risk of cancer from x-ray radiation exposure is generally dismissed as insignificant; however, young people will receive far more x-rays than the previous generation, raising the question of a possible cumulative effect on the body.

Robin and Burke concluded that routine x-ray examinations are risky and cost-ineffective, provide negligible benefits, and the practice should be discontinued. It is up to each physician to assess the risks and benefits for each individual patient before ordering x-ray procedures.

ASIM SURVEY DOCUMENTS MEDICARE PAYMENT, POLICY INCONSISTENCIES NATIONWIDE

According to a survey recently released by the American Society of Internal Medicine (ASIM), there is little consistency nationwide in interpretation and implementation of Medicare policy regarding payment for physician services among contracted insurance companies (known as Medicare carriers). Data was collected on 57 carriers across the country which have contracted with the Health Care Financing Administration (HCFA) in Washington, D. C., to administer payment for medical services provided by physicians (Part B benefits). In addition, the survey found evidence of widespread inefficiency and other problems that indicate deterioration of services provided by carriers. As a result, *when* an elderly beneficiary or a physician receives Medicare reimbursement—and *how much* they receive (if anything)—depends to a great extent on which carrier pays the bills, rather than on national Medicare policy established by HCFA and Congress.

Mailed to 1,737 internists nationwide in January under the auspices of ASIM's Carrier Accountability Monitoring Project (CAMP), the statistically-valid survey questioned respondents on carrier responsiveness and found that:

- *Medicare beneficiaries are waiting an average of seven weeks to receive reimbursement for payment for physician services (Part B) from Medicare carriers.* The same survey found that internists, who treat 43% of the Medicare population, are waiting an average of five weeks for payment for claims they assign (i.e., accept Medicare's allowances directly from carriers as payment in full). As a result, many of the elderly are incurring substantial out-of-pocket expenses over a long period of time, and some of the physicians who treat a major portion of elderly patients are experiencing short-term cash flow problems in meeting their office expenses. Turnaround times for processing and paying claims vary significantly among the 48 carriers which were compared nationwide, however.
- *Physicians are being frustrated in their efforts to communicate with carriers about reimbursement problems.* One-half of the 673 respondents reported that the carrier's phone number was busy more than 10 times in the previous six months. More than 85% said this occurred at least once during the same period. Since physicians and their staff in the majority of instances are calling on behalf of their elderly patients to resolve claims denials and clarify policies relating to reimbursement, this inability to communicate means even lengthier delays in payments to patients and physicians and, in some cases, costly and unnecessary claims denial appeals.
- *Carriers are providing incorrect information on Medicare reimbursement policies.* When physicians are able to reach the carrier, nearly two-thirds answered that they had received incorrect information on Medicare reimbursement policies and requirements at least once in the previous six months: 13% said this occurred more than 10 times.
- *Carriers are not recognizing the different levels of service provided for office and hospital visits,* which can lower the amount of reimbursement to patients and increase their out-of-pocket expenses. An agreement between HCFA and the American Medical Association requires the exclusive use of Current Procedural Terminology (CPT) for coding and reporting physician services under Medicare. The primary benefit of CPT is that it allows differentiation between levels of physician services, based on the amount of effort and judgment required.

More than two-thirds of the respondents experienced at least one problem with carriers assigning different codes for services from what was originally entered on the claim; 25% said this happened more than 10 times. Nearly one-third said carriers are paying the same amount for different levels of services, regardless of what was written on the claim. And, in serious violation of HCFA's instructions to use CPT codes, some carriers (reported by 10% of respondents) have instructed physicians to use codes that are different than those in CPT.

- *Most carriers are processing claims denials appropriately.* The most positive findings of the survey indicate that carriers are following claims denials procedures appropriately, although 18% of respondents said they were not notified of the initial determination and were consequently denied due process rights to appeal.
- *Carrier performance has deteriorated or is unchanged from the year before.* Nearly three-quarters of respondents rated carrier's performance as either unchanged (47%) or worse (25%) compared to 1984.

The ASIM/CAMP report concludes that many of the problems documented by the survey have occurred because FY '86 funding levels for Medicare claims processing are not adequate. Instead of continuing to cut carriers' budgets in FY '87, HCFA should be sure that sufficient funding is provided to enable prompt claims processing and efficient administration of the Medicare program, the report stressed. And, because some carriers are able to provide prompt turnaround in spite of budgetary cutbacks, the ASIM/CAMP report called for more emphasis in future budgets on evaluating carrier performance to specifically identify those carriers whose performance is below par.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

TREATMENT OF ACUTE CHEMICAL EXPOSURE

Presented by George Woods, M.D., Memphis, Tennessee, *October 25, Time to be Announced.* Baptist Medical Center Shuffield Auditorium. 6 hours Category I credit. Sponsored by the Baptist Medical Center.

BETA II STRESS HYPOKALEMIA

Presented by George Ackerman, M.D., *October 30, 12:00 noon.* Sparks Regional Medical Center, 7th Floor Dining Room. Sponsored by AHEC Fort Smith, Family Practice Residency Program.

PSYCHONEUROIMMUNOLOGY: THE SEARCH FOR THE HEALER WITHIN

Presented by Frederick G. Guggenheim, M.D. and Robert B. Doyle, Ph.D., *October 31, 6:00 a.m.-7:30 p.m. and November 1, 8:00 a.m.-6:30 p.m.* UAMS Education Building, Room G/141A, Little Rock. 9.25 hours Category I credit. Fee: UAMS staff and Biofeedback Society members—$50.00; Students—$30.00; Others—$60.00. Sponsored by the UAMS Office of Continuing Education for Physicians.

CEREBROVASCULAR DISEASE

Presented by AHEC-Northwest, *November 1, 8:00 a.m.-11:00 a.m.* Washington Regional Medical Center, Baker Conference Room, Fayetteville, Arkansas. 3 hours Category I credit. Fee: $15.00. Sponsored by AHEC-Northwest.

ONCOLOGY SEMINAR

November 8, 9:00 a.m.-12:00 noon. Pain control in infectious disease and AIDS will be discussed. Baptist Medical Center Library. 3 hours Category I credit. Sponsored by the Baptist Medical Center.

PSYCHIATRY SEMINAR

Presented by Charles Kelso Billings, Jr., M.D., Alton Ochsner Medical Foundation; Richard Shelton, M.D., Vanderbilt University; and Charles

V. Ford, UAMS, *November 8, 9:00 a.m.-12:00 noon.* Baptist Medical Center Shuffield Auditorium. 3 hours Category I credit. Sponsored by the Baptist Medical Center.

THIRD ANNUAL CONFERENCE ON PERINATAL CARE

Presented by Frank Miller, M.D., *November 13, 8:00 a.m.-5:00 p.m. and November 14, 8:00 a.m.-4:00 p.m.* University Conference Center, #5 Statehouse Plaza, Little Rock. 11.75 hours Category I credit. Fee: Physicians—$65.00; Nurses—$30.00. Sponsored by the UAMS Office of Continuing Education for Physicians.

ACUTE AND CHRONIC RECTAL PAIN AND PERINEAL DISCOMFORT

Presented by John E. Ray, M.D., Oschner Clinic, New Orleans, Louisiana, *November 18, 7:00 p.m.* Baxter County Regional Hospital, Education Building, Mountain Home. 2 hours Category I credit. Sponsored by the Baxter County Regional Hospital.

MANAGEMENT OF ACUTE MI

Presented by AHEC-Northwest, *November 18, 7:00 p.m.* Washington Regional Medical Center, Baker Conference Room, Fayetteville. One hour Category I credit. Sponsored by AHEC-Northwest.

CHEST CONFERENCE — EMPHYSEMA

Presented by William Stead, M.D., Little Rock, *November 19, 12:30 luncheon.* St. Michael Hospital, Texarkana. 1 hour Category I credit. Sponsored by AHEC-Southwest, Texarkana.

PSYCHIATRY UPDATE 1986

Presented by G. Richard Smith, M.D., *November 21-23, Time to be Announced.* Excelsior Hotel, Little Rock. Approximately 8 Category I credit hours. Fee to be announced. Sponsored by the UAMS Office of Continuing Education for Physicians.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

EL DORADO — AHEC

Behavioral Sciences Conference, first and fourth Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:00 p.m., Warner Brown Hospital.
Gynecology-Pathology Conference, second Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Pathology Conference, second Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Obstetrics-Gynecology Conference, fourth Thursday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Surgical Conference, first, second, and third Monday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Tumor Clinic, fourth Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.

FAYETTEVILLE — AHEC-NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Chest Conference, second Wednesday, 11:30 a.m., VAMC.
Medical Conference, each Wednesday, 11:30 a.m., VAMC.
Pathology-Mortality Conference, third Wednesday, 11:30 a.m., VAMC.
Radiology Conference, fourth Wednesday, 11:30 a.m., VAMC.

FORT SMITH — AHEC

Cardiology Conference, first Wednesday, 12:00 noon, Sparks Regional Medical Center.
Dermatology Conference, first Thursday, 12:00 noon, Sparks Regional Medical Center, Library.
Family Practice Conference, third Wednesday, 12:00 noon, Sparks Regional Medical Center, Library.
Gastroenterology Conference, first Friday, 12:00 noon, Sparks Regional Medical Center, Library.
Neurology Conference, second Thursday, 12:00 noon, Sparks Regional Medical Center.
Obstetrical/Gynecology Conference, third Thursday, 12:00 noon, Sparks Regional Medical Center, Library.
Pediatric Conference, third Wednesday, 12:00 noon, Sparks Library.
Thoracic/Cardiovascular Conference, third Thursday, 12:00 noon, Sparks Regional Medical Center, Library.

JONESBORO — AHEC-NORTHEAST

AHEC Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.
Chest Conference, fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Interesting Case Conference, second and fifth Tuesday, when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.

Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Cafeteria, Methodist Hospital of Jonesboro.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Alternating Sub-Specialty Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
General Pediatrics Seminar, first and third Friday, 12:00 noon, Second Floor Classroom.
Genetics Conference, each Wednesday, 12:00 noon, ACH Clinic Conference Room.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Oncology Conference, third Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Pediatric Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pediatric Neuroscience Conference, first Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Pharmacology Conference, fifth Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Radiology Conference, first and third Thursday, 12:00 noon, Second Floor Classroom.
Pediatric Research Conference, third Monday, 12:00 noon, Second Floor Classroom.
Problem Case Conference, second and fourth Friday, 12:00 noon, Second Floor Classroom.
Respiratory Care Case Conference, each Monday, 3:00 p.m., Second Floor Classroom.

LITTLE ROCK — ST. VINCENT INFIRMARY

Cancer Conference, first Wednesday, 12:00 noon-1:00 p.m., CARTI Auditorium. A meal is provided.
Cancer Conference, third and fourth Thursday, 12:00 noon-1:00 p.m., Room S1174K, Laboratory. A meal is provided.
General Medicine Journal Club, first and third Tuesday, 12:00 noon-1:00 p.m., Medical Affairs Conference Room. Bring your lunch.
Hematology-Oncology Conference, second Thursday, 12:00 noon-1:00 p.m., Laboratory Library. A meal is provided.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m.-6:30 p.m., Classroom 1, Education Wing. Refreshments are provided.
Neuropathology Conference, third Tuesday, 5:00 p.m.-6:00 p.m., Room S1174K, Laboratory. Refreshments are provided.
Pediatric Conference, first Tuesday, 12:30 p.m.-1:30 p.m., Classroom 1, Education Wing. A meal is provided.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m.-7:00 p.m., Classroom 1, Education Wing. A meal is provided.
Pulmonary Conference, second and fourth Wednesday, 12:00 noon-1:00 p.m., Classroom 1, Education Wing. A meal is provided.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Anesthesia Lecture Series, each Tuesday, 7:00 a.m.; each Wednesday, 4:00 p.m., UAMS Education Building, Room G/106.
Anesthesia Morbidity and Mortality Conference, each Thursday, 4:00 p.m., UAMS Education Building, Room G/106.
GI Basic Science Conference, each Thursday, 7:30 a.m., UAMS Education Building, Room G/108A&B.
Interdisciplinary Gynecologic Cancer Conference, each Friday, 12:30 p.m., UAMS Education Building, Room G106A&B.
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.
Medicine Research Conference, each Tuesday, 8:00 a.m., UAMS Shorey Building, Room 8/105.
OB/Gyn Grand Rounds, each Wednesday, 7:30 a.m., UAMS Education Building, Room G/141B.
Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m., UAMS AAC Eye Clinic, Room 3/150. 2 hours credit.
Orthopaedic Fracture Conference, each Tuesday, 7:30 a.m., UAMS Education Building, Room B/135.
Orthopedic Basic Science Conference, each Tuesday, 11:00 a.m., UAMS Education Building, Room B/135.
Orthopaedic Bibliography Conference, each Tuesday, 8:30 a.m., UAMS Education Building, Room B/135. 1½ hours credit.
Orthopaedic Grand Rounds, each Tuesday, 10:00 a.m., UAMS Education Building, Room B/135.
Psychiatry Grand Rounds, each Friday, 11:00 a.m., UAMS Shorey Auditorium.
St. Vincent Urology Grand Rounds, first Tuesday, 5:30 p.m., St. Vincent Infirmary, Education Building, Room 159.
Surgery Grand Rounds, each Saturday, 8:00 a.m., UAMS Education Building, Room G/131.
Surgical Science Conference, each Tuesday, 11:00 a.m., UAMS Education Building, Room G/131.
Urology Grand Rounds/Urologic Topics, two to three times monthly (each), 5:00 p.m., UAMS or VAMC.
Urology Morbidity and Mortality Workshop/Uro-Radiology Workshop, once monthly, 5:00 p.m., UAMS (dates vary).
VA Medical Service Teaching Conference, each Thursday, 8:00 a.m., NLRVA, Building 66, Room 38.
VA Surgery Grand Rounds, each Thursday, 12:45 p.m., LRVA, Room 2D109.
VA Weekly Cancer Conference, (Surgical Service), each Tuesday, 1:00 p.m., LRVA, Room 2D109.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Anesthesiology Conference, third Thursday, 7:00 a.m.-8:00 a.m., Conference Room 1.
Grand Rounds Conference, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room 1. Lectures and Case Presentations. A light lunch will be served.

Pathology Conference, third Tuesday, 3:00 p.m. to 4:00 p.m., Pathology Library, Case Presentations.
Pulmonary Conference, each Tuesday, 12:00 noon, Shuffield Auditorium. Lunch served for $1.75.
Surgery Conference, each Thursday, 7:30 a.m., Conference Room 2. Lectures and Case Presentations.

PINE BLUFF — AHEC

Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC

Neuro-Radiology Conference, second and fourth Wednesday, 7:00 a.m. breakfast, Wadley Regional Medical Center, 1000 Pine Street, Texarkana.
Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.



THINGS TO COME



October 30-November 1

Noninvasive Vascular Diagnostic Techniques. Sponsored by Temple University and the Institute for Medical Studies. Washington, D. C. Application has been submitted for 18 hours of Category I credit. Fee: $395. For more information contact: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Laguna Niguel, California 92677; (714) 495-4499.

November 3-7

Diagnostic Radiology Seminars. Sponsored by the University of California, San Francisco. Maui Marriott Resort, Maui, Hawaii. 24 hours Category I credit. Fee: $495 for physicians; $395 for residents, fellows, technologists and nurses with a letter of verification. For program information, call Radiology Postgraduate Education, University of California (415) 476-5731; for travel information, call Travel Planners, Inc., San Antonio, TX (512) 341-8131.

November 8-9

Transurethral Ureteroscopy: A Seminar and Workshop. Sponsored by the Office of Continuing Medical Education, University of California San Diego School of Medicine. La Jolla Marriott, San Diego, California. 13 CME Category I Credit hours. Fee: $375. For further information contact: Office of Continuing Medical Education, M-017, University of California San Diego School of Medicine, La Jolla, California 92093; (619) 534-3940 or (619) 452-3940.

November 10-14

Annual Conference on Occupational Health. Sponsored by the American Academy of Occupational Medicine. Hyatt Regency on Capitol Hill, Washington, D. C. CME Category I credit on an hour-by-hour basis. For more information contact: American Academy of Occupational Medicine, 2340 S. Arlington Heights Road, Suite 400, Arlington Heights, Illinois; (312) 228-6850.

November 21-22

Workshop on Clinical Hypnosis. Sponsored by the University of Tennessee, Memphis, Department of Psychiatry and Anesthesiology. 15 AMA Category I credit hours; 15 AOA Category 2-D hours; 15 ADA contact hours; 1.5 CEU; and 15 credits APA. Fee: $150; $75 for residents with written verification. For more information contact: Office of Continuing Medical Education, U.T. Memphis, 800 Madison Avenue, Memphis, TN 38163.

December 3-7

Ear, Nose and Throat Diseases in Children: A 1986 Update. Sponsored by the Department of Otolaryngology and Pediatrics, Children's Hospital of Pittsburgh. The Breakers, Palm Beach,

Florida. 17 CME Category I credit hours. Fee: $275 for physicians; $200 for residents. For further information contact: Department of Otolaryngology, Children's Hospital of Pittsburgh, 125 De Soto Street, Pittsburgh, PA 15213; (412) 647-6215.

December 19-20

Advances in Gastrointestinal Surgery. Sponsored by the University of Kentucky, College of Medicine. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit available. For more information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, KY 40536; (606) 233-5161.

December 14

Antarctic Medical Seminars. The Lecture Room of the ship M. S. Society Explorer. Depart and return to Miami, Florida. Sponsored by International Medical Seminars. Itinerary will be Punta Arenas, Chile, Strait of Magellan, Beagle Channel, Cape Horn, Drake Passage, Antarctic Peninsula, Falkland Islands, and South Georgia. 25 hours CME Category I credit. Additional cruise dates: January 9, 1987 and January 30, 1987. Fee for medical seminar tuition is $400. For additional information contact: International Medical Seminars, 125 Main Street, Westport, CN 06880; (203) 222-0560 or 1-800-551-0019.

January 18-24, 1987

Legal Medicine: The New Solution. Sponsored by the University of Kansas Medical Center. Puetro Vallerta, Mexico. 16 Category I AMA, AAFP credit hours available. For more information contact: Ellen Buttron, University of Kansas Medical Center, 39th and Rainbow Boulevard, Kansas City, KS 66103; (913) 588-4494.

January 19-23, 1987

Diagnostic Radiology Seminar. Sponsored by the University of California, San Francisco. Camino Real, Ixtapa, Mexico. 22 hours Category I credit; 22 ECE points for technologists. Fee: $495 for physicians; $395 for residents, fellows, nurses, and technologists with letter of verification. For further information contact: Radiology Postgraduate Education, University of California, Room C324, Third & Parnassus, San Francisco, CA 94143; (415) 476-5731.

February 1-6, 1987

Diagnostic Radiology Seminar. Sponsored by the University of California, San Francisco. The Gant, Aspen, Colorado. 24½ AMA Category I credit hours; 24½ ECE points for technologists. Fee: $495 for physicians; $395 for residents, fellows, nurses, and technologists with letter of verification. For further information contact: Radiology Postgraduate Education, University of California, Room C324, Third & Parnassus, San Francisco, CA 94143; (415) 476-5731.

February 22-27, 1987

Eighteenth Family Medicine Review. Sponsored by the University of Kentucky, College of Medicine. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit hours available. For more information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, KY; (606) 233-5161.

February 22-27, 1987

Diagnostic Radiology Seminar. Sponsored by the University of California, San Francisco. Shadow Ridge, Park City, Utah. 23½ hours AVA Category I credit hours; 23½ ECE points for technologists. Fee: $495 for physicians; $395 for residents, fellows, nurses, and technologists with letter of verification. For further information contact: Radiology Postgraduate Education, University of California, Room C324, Third & Parnassus, San Francisco, CA; (415) 476-5731.

February-April, 1987

Twenty-Eighth Annual Postgraduate Institute for Pathologists in Clinical Cytopathology. Sponsored by the Johns Hopkins University School of Medicine. *February through April 1987, Home Study Course A* is provided each registrant for personal reading and microscopic study at their own laboratory in preparation for Course B; and *April 27 to May 8, 1987 Course B* is a concentrated lecture series, laboratory studies and clinical experience at the Johns Hopkins Medical Institutions, Baltimore, Maryland. 152 AMA Category I hours—must take both courses to receive credit. For more information contact: John K. Frost, M.D., 604 Pathology Building, The Johns Hopkins Hospital, Baltimore, Maryland 21205; (301) 955-3522.



PERSONAL AND NEWS ITEMS

BURROW PASSES CERTIFICATION BOARDS

Dennis Burrow, M.D., a Baptist Medical Center emergency room physician, recently passed the certification board examination for emergency room medicine. He is now a diplomate of the American Board of Emergency Medicine. Burrow earned his medical degree at the University of Arkansas for Medical Sciences, and has been at the Baptist Medical Center since 1979

ARTHRITIS TOPIC FOR DARDEN SPEECH

Richard Darden, M.D., a family practice physician in Van Buren, spoke recently to the Van Buren AARP about arthritis. Darden is a member of the Crawford County Memorial Hospital Speakers Bureau.

VASAN SPEAKS ON FUND RAISING

Srini Vasan, M.D., President of the Union County Unit, Arkansas Division of the American Cancer Society, was the guest speaker at the Pilot Club of El Dorado meeting, recently held at the Econo Lodge. Vasan, medical director of SARTI, spoke about fund raising.

H. N. COGBURN RECEIVES ROTARY AWARD

H. N. Cogburn, a Forrest City physician, was recently named a Paul Harris Fellow by Rotary International District Governor John L. Vandiver at the Forrest City Rotary Club meeting. To be named a Paul Harris Fellow, at least $1,000 must be donated to Rotary International in the member's name. The award is named for the founder of the Rotary.

BERGER TO RETIRE

Alfred Berger, an eye, ear, nose and throat specialist from Helena, recently retired after 26 years of practice. Dr. Berger is a member of the Phillips County Medical Society, the Arkansas Medical Society and the AMA. He has been chief of staff twice at the Helena Hospital.

AAFP ELECTS OFFICERS

The Arkansas Academy of Family Physicians recently elected its new officers. Harold Hedges, M.D., of Little Rock was elected president. Dr. Kenneth Goss is president-elect, Dr. Wendell Ross of Fort Smith was elected vice president. The new secretary-treasurer is Dr. Stephen Tucker, Little Rock and James Weber, M.D. of Jacksonville was elected delegate. The alternate delegate is Lee Parker, M.D., Fayetteville. The Board of Directors includes Sam McGuire, M.D., Forrest City; Michael Young, M.D., Prescott; and Dr. Michael Moody of Salem.

COKER BECOMES HONORARY SWATA MEMBER

Dr. Tom Coker, a physician for the athletic team at the University of Arkansas, was recently inducted as an honorary charter member of the Southwest Athletic Trainers Association. The membership is given to those who have dedicated time and energy to SWATA as well as making contributions to sports medicine, health care of athletes or to the athletic training profession.

DESROCHERS NAMED WACGC DIRECTOR

Fort Smith psychiatrist, Paul E. Desrochers, has been named Medical Director of Western Arkansas Counseling and Guidance Center. He assumed the duties of director October 1 and will continue to see patients in his private practice.

OAKLAWN BANK DIRECTOR NAMED

Dr. Donald C. Fournier, a Texarkana allergy-clinical immunology physician, has been named as one of the three directors to the Oaklawn Bank associate board.

KOLB RECEIVES APA AWARD

W. Payton Kolb, M.D., a Little Rock psychiatrist, recently received the Warren Williams Speaker's Award at the 139th Annual meeting and 30th Convocation of Fellows of the American Psychiatric Association. He was honored for his participation in the governance of the American Psychiatric Association, including Recorder of the Assembly and Chair of the Committee on Constitution and By-Laws. Kolb also received recognition for serving as President of the Arkansas Medical Society and in the AMA House of Delegates.

DODD NAMED FELLOW

Doyne Dodd, M.D., a Little Rock radiologist, was recently honored during the convocation ceremonies at the annual meeting of the American College of Radiology. Dodd was named as one of the fellows for his outstanding contributions to the field of radiology. The annual meeting was held in Baltimore, Maryland.



NEW MEMBERS

DR. DAVID ALLEN NIXON, JR.

David Allen Nixon, Jr., M.D. is Craighead County's new member. Dr. Nixon, an internist, will be practicing at the Northeast Arkansas Internal Medicine Clinic at 311 East Matthews in Jonesboro.

Dr. Nixon graduated from Hendrix College in 1976 with a B.A. degree in Chemistry. He received his medical degree from the University of Arkansas for Medical Sciences in 1980 and went on to serve his internship and residency in internal medicine there. He has a fellowship in hematology and oncology at the University and is board certified in internal medicine.

DR. JAMES W. SLEZAK

Garland County's new member is Dr. James W. Slezak, a Surgeon. Dr. Slezak attended Louisiana Tech University, receiving his B.S. in Chemistry in 1976. He was graduated in 1980 from the University of Arkansas for Medical Sciences and completed his internship and residency at the same institution.

Dr. Slezak will be practicing General, Thoracic and Vascular Surgery at 101 Whittington Avenue, Hot Springs. He is board eligible.

DR. JOHN R. ROBINSON

Dr. John R. Robinson, a Cardiothoracic Surgeon, is the new member in the Miller County Medical Society. Dr. Robinson, a Pasadena, Texas native, graduated in 1974 from the University of Oklahoma with a B.S. in Zoology. He received his medical degree from the University of Texas Health Science Center in San Antonio in 1978 and served his internship and residency there.

Dr. Robinson is board certified in Surgery and will be practicing at 916 Main, Suote 115, Texarkana, Texas.

Pulaski County has nine new members:

DR. JANET RILEY CATHEY

Dr. Janet Riley Cathey, an Obstetrician and Gynecologist, will be practicing at 2001 Pershing, North Little Rock. Dr. Cathey, a Columbia, Missouri native, received her B.S. Degree from the University of Arkansas, Fayetteville in 1982. She attended the University of Arkansas for Medical Sciences until graduating with her medical degree in 1986. Dr. Cathey's internship and residency were in obstetrics and gynecology at the University of Arkansas for Medical Sciences. Dr. Cathy is board eligible in obstetrics and gynecology.

DR. WILLIAM SCOTT BOWEN

William Scott Bowen, M.D., is a specialist in Orthopedics. Dr. Bowen attended and was graduated from Vanderbilt University. He received his B.A. in Chemistry in 1977. He attended the University of Arkansas for Medical Sciences where he received his medical degree in 1981.

Dr. Bowen served his internship at Tulane University in Surgery and his residency in Orthopedics at the University of Arkansas for Medical Sciences. He will be practicing at #5 St. Vincent Circle, Suite 100, Little Rock.

DR. ALLEN CARRUTH HILL

Dr. Allen Carruth Hill, a Helena, Arkansas native, is a Family Practitioner. Dr. Hill attended Phillips County Community College and Arkansas Tech University. He graduated in 1975 with a bachelor of science degree. His medical degree was from the University of Arkansas for Medical Sciences. Dr. Hill's internship was spent at the University of Arkansas for Medical Sciences and the University of Tennessee's Baptist Memorial Hospital program in Pathology. His residency was at the University of Tennessee in Family Practice.

Dr. Hill is board eligible in Family Practice. He practiced from 1982 to 1983 at the Medi-State Inc. in Little Rock and North Little Rock. Dr. Hill's office is at 3200 South Bryant, Little Rock.

DR. AZIZ K. IBRAHIM

Dr. Aziz K. Ibrahim, a Pediatrician, will be practicing at 1308 E. Kiehl, Sherwood. Dr. Ibrahim received his medical degree in 1973 from the University of Baghdad in Iraq. His internship in 1982 was spent in Pediatrics at the Royal Hospital, Chesterfield, in the United Kingdom.

Dr. Ibrahim's residencies, in Pediatrics, were served at the Victoria Hospital, Kirkcaldy Fife, Scotland and the Arkansas Children's Hospital in

Little Rock. Dr. Ibrahim is board eligible in Pediatrics.

DR. WILLIAM FRANK JOSEPH

Dr. William Frank Joseph, a Fort Smith native, is a Family Practitioner. Dr. Joseph attended Arkansas College and received his B.A. degree in Chemistry from that institution in 1978. His medical degree is from the University of Arkansas for Medical Sciences. Dr. Joseph's internship and residency were in Family Practice and were taken at the University of Arkansas for Medical Sciences.

Dr. Joseph is board eligible in Family Practice and his office address is 4202 South University, Little Rock.

DR. REED W. KILGORE

Dr. Reed W. Kilgore is an Orthopedic Surgeon. Dr. Kilgore, a Baton Rouge, Louisiana native, attended Louisiana State University until graduating with a bachelor of science degree. He received his medical degree from the Louisiana State University School of Medicine in New Orleans in 1980.

Dr. Kilgore's internship and residencies were at the University of Arkansas for Medical Sciences in Orthopedics. His office is located at 3629 McCain, #100, North Little Rock.

DR. PAULA K. MORRIS

Dr. Paula K. Morris, a Pediatrician, will be practicing at 516 West Pershing, North Little Rock. Dr. Morris attended the University of Arkansas at Little Rock, graduating in 1978 with a bachelor of science degree. She graduated in 1983 from the University of Arkansas for Medical Sciences with her medical degree.

Dr. Morris's internship and residency in Pediatrics were at the University of Arkansas for Medical Sciences. Dr. Morris is board eligible in Pediatrics.

DR. BRUCE EDWARD MURPHY

A Cardiovascular specialist, Dr. Bruce Edward Murphy graduated from the University of Arkansas at Little Rock in 1975. He attended the University of Arkansas for Medical Sciences, graduating in 1981. He took his internship in internal medicine and his residency in cardiology from the University of Arkansas for Medical Sciences.

Dr. Murphy is board certified in Internal Medicine and is practicing at #5 St. Vincent Circle, Little Rock.

DR. RONALD LYNN WHITE

Dr. Ronald Lynn White is a Gastroenterologist. Dr. White, a Wynne, Arkansas native, attended the University of Arkansas, Fayetteville. He graduated in 1977 with a bachelor of science in Chemistry. He attended the University of Arkansas for Medical Sciences, graduating in 1981 with his M.D.

Dr. White's internship in internal medicine and his residency in gastroenterology were at the University of Arkansas for Medical Sciences. Dr. White is board certified in Gastroenterology and his office is at the Medical Towers 1, Suite 107, Little Rock.

The Sebastian County Medical Society has two new members.

DR. THOMAS RUSSELL MALONEY, III

Dr. Thomas Russell Maloney is an Internist at the Holt-Krock Clinic, 1500 Dodson, Fort Smith. Dr. Maloney graduated from the Rockhurst College in Kansas City, Missouri in 1957. He received his medical degree from the St. Louis University School of Medicine in 1961.

Dr. Maloney's internship was at the University of Kansas Medical Center and his residencies were in internal medicine, hematology/oncology at the Wilford Hall United States Air Force Medical Center at Lackland Air Force base in Texas. He was in the military from 1963 until 1986.

During his military career, Dr. Maloney practiced in Spain, California, and Texas. He has taught at the University of Texas Health Science Center in San Antonio. Dr. Maloney is board certified in Internal Medicine, Hematology, and Oncology. He is also a member of the Society of Air Force Physicians.

DR. STEVE BRYAN NELSON

Dr. Steve Bryan Nelson is a Family Practitioner in Greenwood. He attended and was graduated from Hendrix College in Conway. Dr. Nelson received his medical degree in 1982 from the University of Arkansas for Medical Sciences.

Dr. Nelson's internship and residency were served with the University of Arkansas for Medical Sciences. He is board certified in Family Practice and his office is located at Astor and Atlanta in Greenwood.

DR. JOSE E. ABISEID

Dr. Jose E. Abiseid is Van Buren County's new member. Dr. Abiseid is a Family Practitioner at

the Family Practice Center, Highway 65 South, in Clinton.

Dr. Abiseid received his pre-medical degree in Biochemistry from Princeton University in 1951. He received his medical degree in 1978 from the University of Medicine and Dentistry of New Jersey—Rutgers Medical School. His internship and residency in family practice were with the John F. Kennedy Medical Center program, Edison, New Jersey.

Dr. Abiseid taught at the University of Arkansas for Medical Sciences preceptorship program and was the vice chief of staff at the Van Buren County Memorial Hospital in Clinton.

Dr. Abiseid has been in private practice for five years and is board certified in Family Practice.

RESOLUTIONS



DR. ALAN GARNER CAZORT

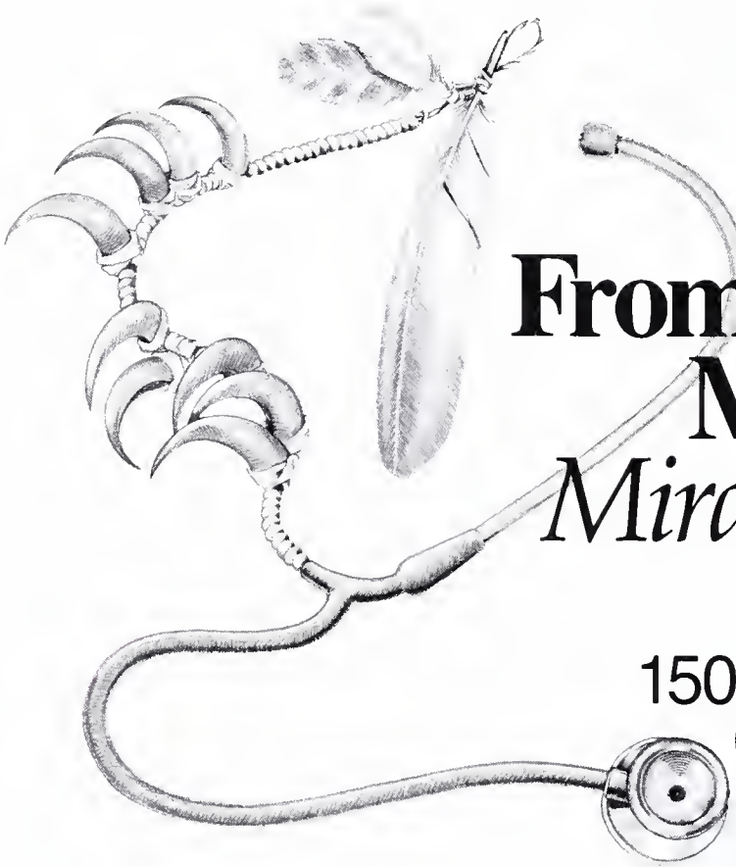
WHEREAS, the membership of the Pulaski County Medical Society notes with sincere sorrow the recent death of our highly esteemed colleague, Alan Garner Cazort, M.D., and

WHEREAS, he has been an important member of this Society for fifty-eight years, during which time he contributed generously of his time and wisdom to the affairs of the organization, serving throughout the years on numerous committees, and

WHEREAS, he led the Society as President during the critical war-time year of 1943 when physician shortage was of great concern to the profession and to the community, be it therefore

RESOLVED that this resolution be adopted as a token of appreciation for Dr. Cazort's contributions as a pioneer in his chosen specialty of allergy and for his interest in the profession; and that a copy of this resolution be forwarded to Dr. Cazort's family to express our sincere appreciation of his life; and that a copy be made available to the Journal of the Arkansas Medical Society for publication.

By the Action of the Memorials Committee
Charles H. Rodgers, M.D., Chairman
Henry Hollenberg, M.D.
Robert Watson, M.D.



From Medicine Man to *Miracle Drugs*

150 Years of Health Care Service for Arkansas

4:00 - Reception & Autograph Party November 6th

Shorey Building Lobby

History of Public Health in Arkansas by Sarah C. Hudson, Arkansas Department of Health

Historical Perspectives: The College of Medicine at the Sesquicentennial, edited by Max Baker, Ph.D., University of Arkansas for Medical Sciences, College of Medicine

5:00 - Premiere of Videotape November 6th

Shorey Building Lobby **1836-1986: Confluence of Compassion and Care**

6:30 - History of Medicine Associates Dinner November 6th

Jeff Banks Student Union Lobby. By reservation only. Call Ms. Edwina Walls at (501) 661-5980.

"Arkansas Medicine: Historical Gleanings from the National Library of Medicine Collection" by John Parascandola, Ph.D., Chief, History of Medicine Division, NLM, Bethesda, MD

Exhibits - Shorey Building Lobby November 3-7

College of Health Related Professions Exhibit

Graduate Education — Meeting the Professional Needs of Arkansas

The Sesquicentennial of the National Library of Medicine 1836-1986

Where Have We Been? Richard Clark, M.D., Department of Anesthesiology, College of Medicine

Open House - Dental Hygiene Clinic

Tours from 9:15-11:30 a.m. and 1:15-3:30 p.m., Thursday, November 6th, 1986

Dedication - Magnetic Resonance Imaging Facility

Friday, November 7th at 2:00 p.m.

November 1986

THE JOURNAL OF THE Arkansas MEDICAL SOCIETY

Vol. 83 No. 6

LITTLE ROCK, ARKANSAS

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SPECIAL IN THIS ISSUE

Short-Term Intervention on Diabetes Management 241
Nutritional Care of the Diabetic Pregnant Woman 245

OFFICE ORTHOPEDICS

Colle's Fracture 252

CANCER MANAGEMENT PROBLEMS

Larynx Cancer 259

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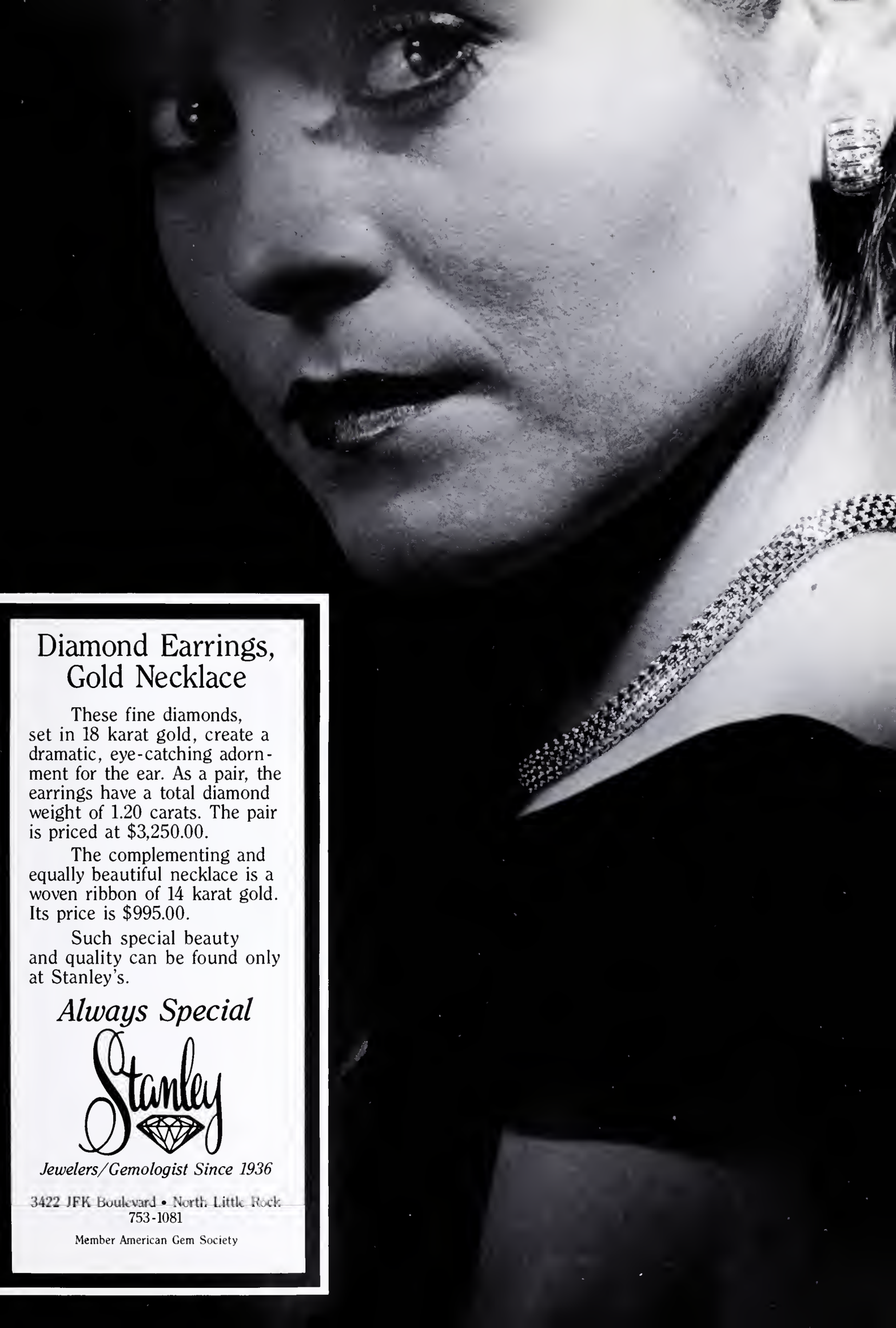
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NEWS — Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

SCIENTIFIC ARTICLES

The Effect of Short-Term Intervention On Long-Term Diabetes Management 241
Stephen F. Kemp, M.D., Ph.D., Michael E. Canfield, Capt., USAF, MC, Francine S. Kearns, R.N., and Joycelyn Elders, M.D.

Nutritional Care of the Pregnant Diabetic Woman 245
Carole B. Garner, R.D., M.P.S.

FEATURES

ECG of the Month 251
Ha Dinh, M.D., and John Watson, M.D.

Office Orthopedics: "Colle's Fracture" 252
I. Leighton Millard, M.D.

Editorial: "Don't Forget the Zebras" 258
A. S. Fitzhugh, M.D.

Cancer Management Problems: "Squamous Cell Carcinoma of the Supraglottic Larynx" 259
W. Ducote Haynes, M.D., Carlos A. Araoz, M.D., Tony A. Flippin, M.D., Terrence A. Oddson, M.D., and A. Reed Thompson, M.D.

From Other Years: "A Troubled Doctor" and "Place the Blame Where it Belongs" 261

Medicine in the News 261

Keeping Up 263

Things to Come 265

Personal and News Items 267

New Members 268

Obituaries 270

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October 1, 1986

Dr. Caring Physician
Arkansas Medical Profession
1 Patient Care Lane
Anytown, Arkansas 72000

Re: Tax Reform Act of 1986

Dear Doctor:

The Tax Reform Act of 1986 is the most radical change to the Internal Revenue Code in over three decades. You need someone who knows the new tax law and who can develop a tax planning program designed specifically to meet your needs. We can help you develop the best

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Significantly reduced risk of endometrial hyperplasia

Endometrial hyperplasia was significantly reduced when progestin was added to PREMARIN therapy for more than ten days a month.[1-4] The risk of endometrial hyperplasia may also be reduced through cyclic administration of unopposed, low-dose PREMARIN.

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PREMARIN used alone does not adversely affect lipid levels. In fact, a clinical study has shown a significant increase in HDL cholesterol—from 49.7 mg/dL to 56.4 mg/dL—and decrease in LDL cholesterol—from 165.1 mg/dL to 138.1 mg/dL—after one year of therapy with PREMARIN, 0.625 mg.[5]

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PREMARIN effectively relieves vasomotor symptoms, such as hot flashes. When estrogen deficiency is limited to atrophic vaginitis, PREMARIN® (conjugated estrogens) Vaginal Cream restores the vaginal environment to its premenopausal state.

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*PREMARIN is indicated for moderate-to-severe vasomotor symptoms.

Please see following page for brief summary of prescribing information.

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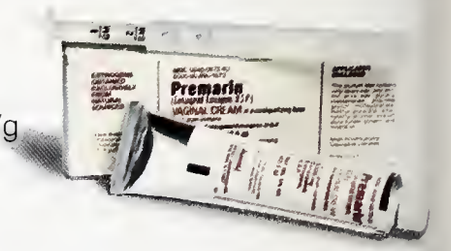
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For atrophic vaginitis

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BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION AND PATIENT INFORMATION, SEE PACKAGE CIRCULARS.)*

PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream in a nonliquefying base

1. ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK OF ENDOMETRIAL CARCINOMA.

Three independent case control studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer. These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade. The three case control studies reported that the risk of endometrial cancer in estrogen users was about 4.5 to 13.9 times greater than in nonusers. The risk appears to depend on both duration of treatment and on estrogen dose. In view of these findings, when estrogens are used for the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible. When prolonged treatment is medically indicated, the patient should be reassessed on at least a semiannual basis to determine the need for continued therapy. Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration; it therefore appears prudent to utilize such a regimen. Close clinical surveillance of all women taking estrogens is important. In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy. There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equiestrogenic doses.

2. ESTROGENS SHOULD NOT BE USED DURING PREGNANCY.

The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring. It has been shown that females exposed in utero to diethylstilbestrol, a non-steroidal estrogen, have an increased risk of developing in later life a form of vaginal or cervical cancer that is ordinarily extremely rare. This risk has been estimated as not greater than 4 per 1,000 exposures. Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix. Although these changes are histologically benign, it is not known whether they are precursors of malignancy. Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes. Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb reduction defects. One case control study estimated a 4.7-fold increased risk of limb reduction defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment for threatened abortion). Some of these exposures were very short and involved only a few days of treatment. The data suggest that the risk of limb reduction defects in exposed fetuses is somewhat less than 1 per 1,000. In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion. There is considerable evidence that estrogens are ineffective for these indications, and there is no evidence from well controlled studies that progestogens are effective for these uses. If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation.

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine. It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters. Tablets are available in 0.3 mg, 0.625 mg, 0.9 mg, 1.25 mg, and 2.5 mg strengths of conjugated estrogens. Cream is available as 0.625 mg conjugated estrogens per gram.

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets, USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause. (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions.) **Osteoporosis (abnormally low bone mass).** Atrophic vaginitis. Kraurosis vulvae. Female castration.

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae. PREMARIN HAS NOT BEEN SHOWN TO BE EFFECTIVE FOR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING).

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized. Studies of the addition of a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia. Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes. Whether this will provide protection from endometrial carcinoma has not been clearly established. There are possible additional risks which may be associated with the inclusion of progestin in estrogen replacement regimens. (See PRECAUTIONS.) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects.

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions: 1. Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease. 2. Known or suspected estrogen-dependent neoplasia. 3. Known or suspected pregnancy (See Boxed Warning). 4. Undiagnosed abnormal genital bleeding. 5. Active thrombophlebitis or thromboembolic disorders. 6. A past history of thrombophlebitis, thrombosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy).

WARNINGS: Long-term continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver. There are now reports that estrogens increase the risk of carcinoma of the endometrium in humans. (See Boxed Warning.) At the present time there is no satisfactory evidence that estrogens given to postmenopausal women increase the risk of cancer of the breast, although a recent study has raised this possibility. There is a need for caution in prescribing estrogens for women with a strong family history of breast cancer or who have breast nodules, fibrocystic disease, or abnormal mammograms. A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens.

Adverse effects of oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women for postpartum breast engorgement. Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke, and myocardial infarction. Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users. An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives. It feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization. Estrogens should not be used in persons with active thrombophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use. They should be used with caution in patients with cerebral vascular or coronary artery disease. Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nonfatal myocardial infarction, pulmonary embolism and thrombophlebitis. When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk.

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock. Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives. Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use. A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives. For this reason, diabetic patients should be carefully observed. Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases.

PRECAUTIONS: Physical examination and a complete medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear. As a general rule, estrogen should not be prescribed for longer than one year without another physical examination being performed. Conditions influenced by fluid retention such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation. Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc. Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients. Oral contraceptives appear to be associated with an increased incidence of mental depression. Patients with a history of depression should be carefully observed. Preexisting uterine leiomyomata may increase in size during estrogen use. The pathologist should be advised of estrogen therapy when relevant specimens are submitted. If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated. Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not complete. If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism.

The following changes may be expected with larger doses of estrogen:

a. Increased sultobromophthalein retention.

b. Increased prothrombin and factors VII, VIII, IX, and X; decreased antithrombin 3; increased norepinephrine-induced platelet aggregability.

c. Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T4 by column, or T4 by radioimmunoassay. Free T3 resin uptake is decreased, reflecting the elevated TBG; free T4 concentration is unaltered.

d. Impaired glucose tolerance.

e. Decreased pregnanediol excretion.

f. Reduced response to metyrapone test.

g. Reduced serum folate concentration.

h. Increased serum triglyceride and phospholipid concentration. As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk.

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives: breakthrough bleeding, spotting, change in menstrual flow; dysmenorrhea; premenstrual-like syndrome; amenorrhea during and after treatment; increase in size of uterine fibromyomata; vaginal candidiasis, change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, bloating; cholestatic jaundice; chloasma or melasma which may persist when drug is discontinued; erythema multiforme; erythema nodosum; hemorrhagic eruption; loss of scalp hair; hirsutism; steepening of corneal curvature; intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea; increase or decrease in weight; reduced carbohydrate tolerance; aggravation of porphyria; edema; changes in libido.

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females.

DOSAGE AND ADMINISTRATION:

PREMARIN® Brand of conjugated estrogens tablets, USP

1. *Given cyclically for short-term use only.* For treatment of moderate to severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0.3 to 1.25 mg or more daily). The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible. Administration should be cyclic (eg, three weeks on and one week off). Attempts to discontinue or taper medication should be made at three- to six-month intervals.

2. *Given cyclically:* Female castration. Osteoporosis. Female castration—1.25 mg daily, cyclically. Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control. Osteoporosis—0.625 mg daily. Administration should be cyclic (eg, three weeks on and one week off).

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

PREMARIN® Brand of conjugated estrogens Vaginal Cream

Given cyclically for short-term use only. For treatment of atrophic vaginitis or kraurosis vulvae.

The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible.

Administration should be cyclic (eg, three weeks on and one week off).

Attempts to discontinue or taper medication should be made at three-to-six month intervals.

Usual dosage range: 2 to 4 g daily, intravaginally, depending on the severity of the condition.

Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

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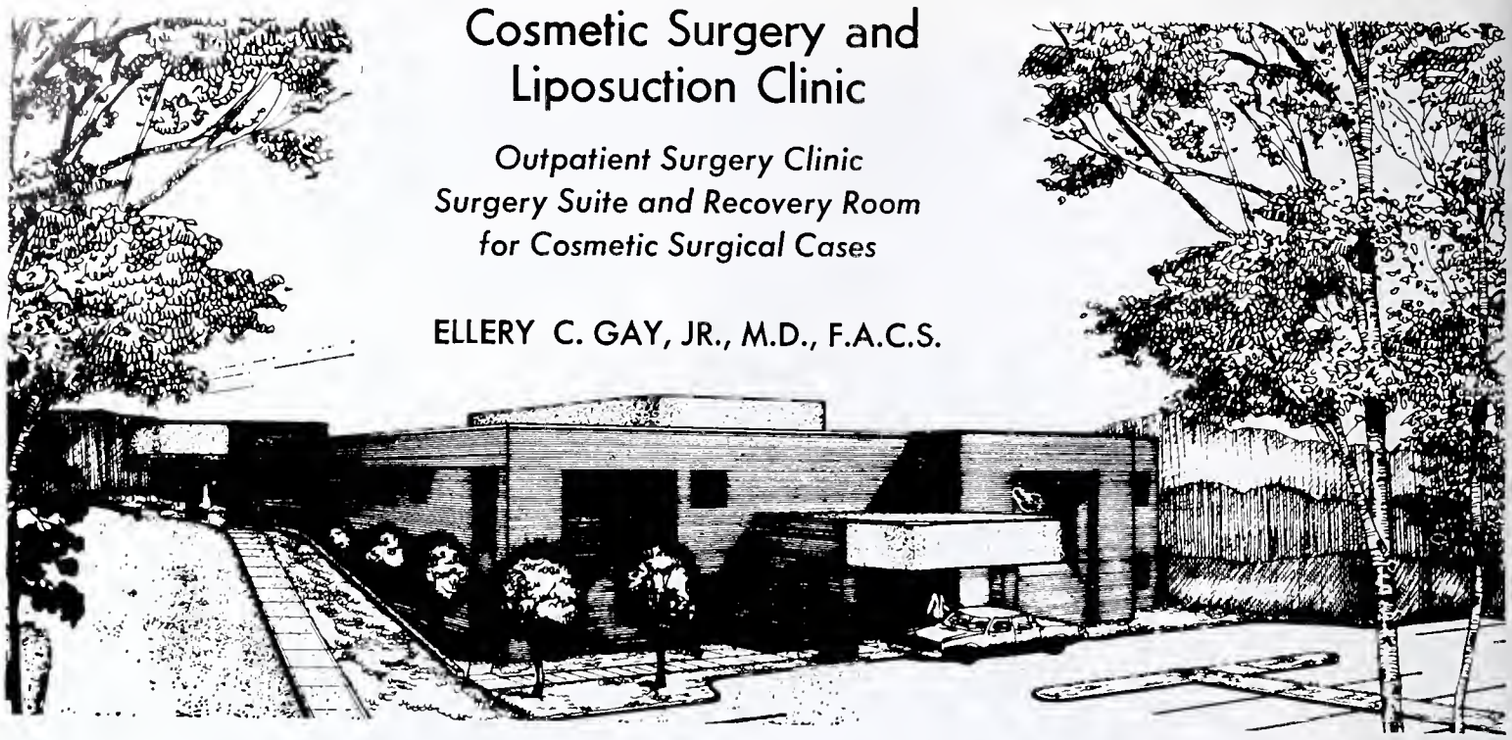
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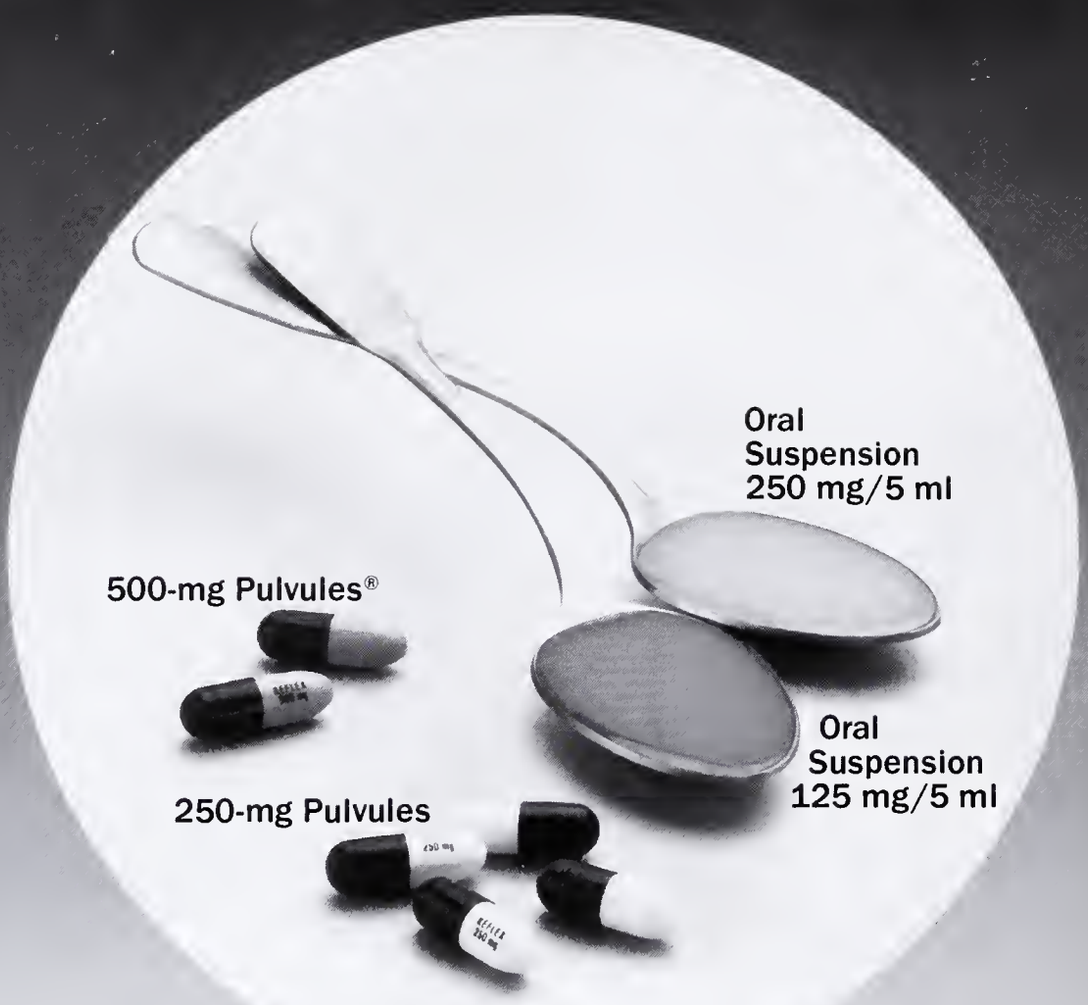
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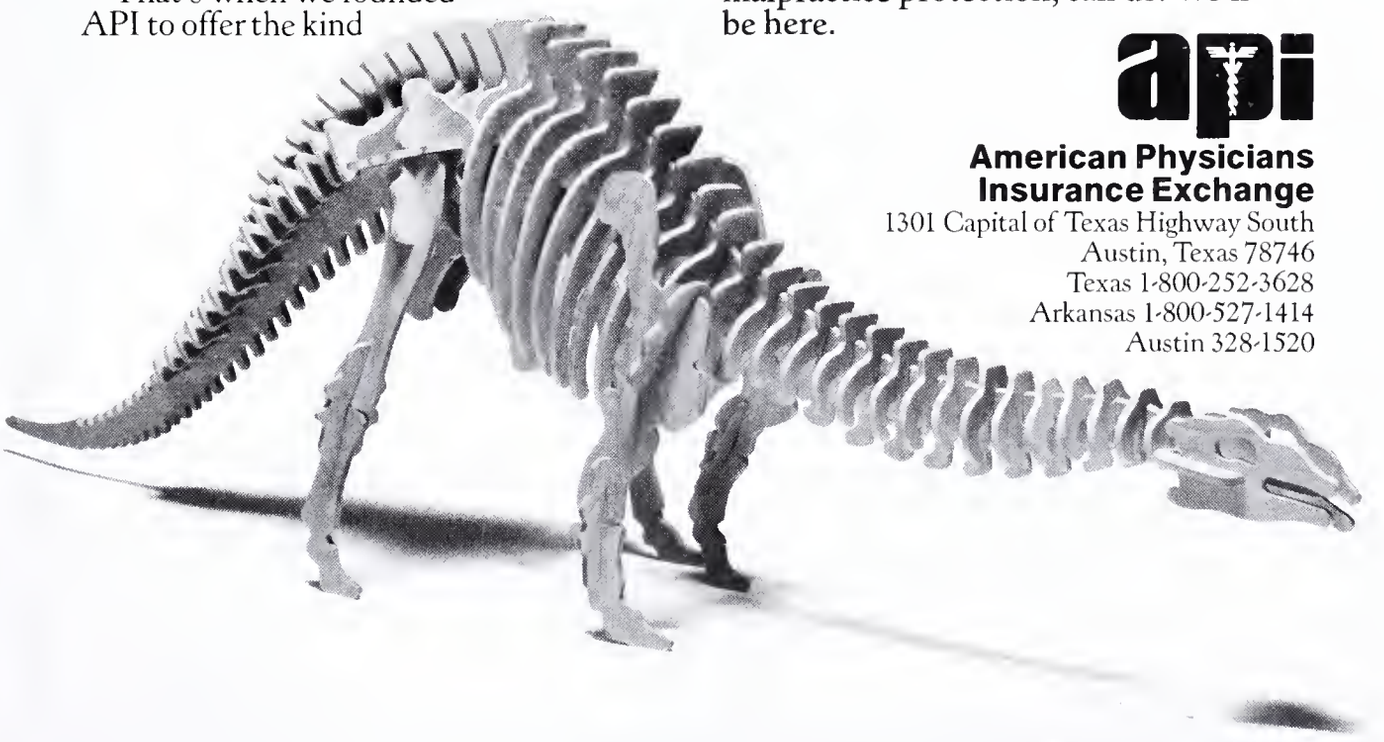
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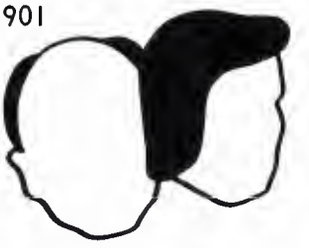
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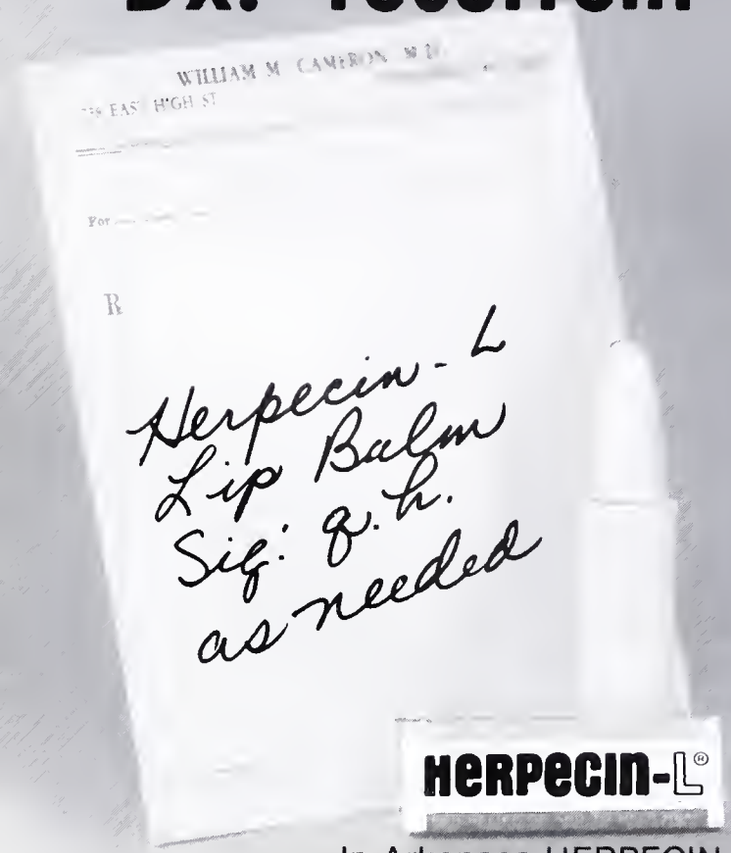
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The Effect of Short-Term Intervention on Long-Term Diabetes Management

Stephen F. Kemp, M.D., Ph.D.,* Michael E. Canfield, Capt., USAF, MC,*

Francine S. Kearns, R.N.,* and M. Joycelyn Elders, M.D.*

Editorial Note:

The American Diabetes Association estimates that there are 6 million diagnosed diabetics in the United States, with another 5 million undiagnosed. It is estimated that 50,000 Arkansans have diabetes but an additional 50,000 do not know they have the disease. It is also estimated that 10 Arkansans die each day from the complications associated with diabetes — heart disease, stroke and kidney disease.

On the horizon for diabetes treatment and control is the islet and pancreas transplant instead of the syringe. So far islet and pancreas transplants have produced limited amounts of insulin for short periods of time. Researchers are looking for a new method of gathering and purifying islets. To date, transplants are only being performed on kidney transplant patients who are receiving immuno-suppressant drugs.

ABSTRACT

We have evaluated the effectiveness of education and carefully monitored blood glucose control in 42 subjects at a summer camp for children with insulin-dependent diabetes mellitus. During the first camp session glycated albumin decreased from 16.5 ± 1.0% to 14.5 ± 0.8%, and during the second session (one year later) from 16.7 ± 0.9% to 14.0 ± 0.8%. Despite improvements in a level of knowledge test scores and the extent of glycation of albumin, there was no improvement in hemoglobin A_{1c} determinations one year later. A correlation existed between each subject's hemoglobin A_{1c} from the first to second year. We conclude that a two week period of education and carefully monitored diabetes control does not have a long term effect on diabetes management. Improvement in blood glucose control might be achieved by a program which is repeated at more frequent intervals and involves parents or caretakers.

Among the most significant advances in treatment of the patient with diabetes is the ability to estimate glycemic control over specific periods of time. Glycated hemoglobin indicates the degree of diabetes control for the six to ten week period before measurement,[1] glycated albumin reflects the two to four weeks before measurement,[2-5] and glycated transferrin[6] and glycated serum proteins[7,8] reflect the period one to two weeks before measurement. We have used these techniques to evaluate the effectiveness of two weeks of intensive education and diabetes control at a summer camp.

MATERIALS AND METHODS

Study participants were 42 children with insulin-dependent diabetes (IDDM), all attending a two week summer camp for children with diabetes. Their ages ranged from 8 to 16 years (mean 10 years). Informed consent was obtained from each subject and their parents. These investigations were approved by the University of South Alabama Committee for Protection of Human Subjects.

Study protocol. Each participant performed blood glucose measurements using bG Chemstrips (Bio-Dynamics, Indianapolis, IN) four times during the day, at least every other day. Each afternoon the records were reviewed by the medical staff, and insulin dose and diet were ordered for

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the next day with the aim of keeping blood glucose concentrations between 80 and 150 mg/dl. Venous specimens were collected upon arrival at the camp and after ten days for two consecutive yearly camp sessions. The blood was promptly centrifuged, and the serum separated and immediately frozen. Serum specimens were stored at —20°C until assayed. At the time of collection of the second sample, an additional specimen was collected in a heparinized capillary tube for determination of hemoglobin A_{1c} levels. Hemolysate was prepared immediately after collection, the sample stored at 4°C, and assayed within 24 hours.

Each participant received eight hours of formal diabetes education during the camp period. Topics included nutrition, insulin and insulin adjstment, and exercise.

Diabetes Education. Each participant received eight hours of formal diabetes education during the camp period, either as lectures or as computer assisted instruction. Topics included eye, skin, and foot care, treatment of hypo- and hyperglycemia, nutrition, insulin and insulin adjustment, and exercise. Level of knowledge was assessed at the beginning and end of the first year camp period with a test which consisted of 50 questions designed to evaluate knowledge of physiology, practical skills, diet, insulin, and exercise.

Determination of glycated proteins. Hemoglobin A_{1c} was determined by high pressure liquid chromatography (Helena Laboratories, Beaumont, TX). Glycated serum protein were separated using boronate-agarose gel (Glyc-Affin, Isolab, Akron, OH) as previously described,[6] and albumin concentrations were measured by the bromocresyl green method.[9]

Statistical Methods. Grouped data were analyzed for statistical significance using a two-tailed, paired student's t-test. Covariance determinations were performed using linear least-squares regression analysis that employed the following tests: 1) a student's t-test, the null hypothesis (H_0) being that the slope of the regression line equals 0; 2) a correlation coefficient (R), H_0 being that x and y are independent variables; and 3) an analysis of variance, H_0 being that the regression of y on x is not linear. The level of significance chosen for all tests was $\alpha = 0.05$.[10,11]

RESULTS

Evaluation of diabetes education. Scores on the level of knowledge test at the beginning of the camp period ranged from 30.6% to 97.9% (mean 69.6 ± 4.0%). After the two weeks of instruction scores ranged from 40.8% to 100% (mean 79.5 ± 3.4%). The improvement in scores was significant ($P < 0.0001$ by pairwise t-test).

Levels of glycated proteins. Results of hemoglobin A_{1c} determinations from each year are shown in Table 1. In 1983 the range of hemoglobin A_{1c} determinations for the 42 subjects was 4.7 to 11.4% (mean ± SEM 8.1 ± 0.3%), compared to a range of 6.0 to 14.4% (mean ± SEM 10.1 ± 0.3%) for 1984. As shown in the Figure 1 there was a strong correlation between each subject's hemoglobin A_{1c} determination in 1983 with that in 1984. Initial glycated albumin levels in 1983 ranged from 6.0% to 14.4% (mean ± SEM 16.5 ± 1.0%) in 1983, and after 10 days of the camp session ranged from 3.2% to 21.1% (mean ± SEM 14.5 ± 0.8%). Similarly, initial glycated albumin levels in 1984 ranged from 10.3% to 26.2% (mean ± SEM 16.7 ± 0.9%), and after 10 days of the camp session ranged from 8.2% to 20.2% (mean ± SEM 14.0 ± 0.6%). For each year a significant correlation existed between the initial glycated albumin determination and that year's hemoglobin A_{1c} determination ($R = 0.70$ for 1983; $R = 0.73$ for 1984). However, a significant correlation did not exist between hemoglobin A_{1c} determinations from either year and initial glycated albumin determination from the other year. In order to determine whether diabetes control was more difficult in those subjects with higher hemoglobin A_{1c} levels, we compared the response of glycated albumin levels to the 10 days study period for each year. In 1983, the upper

TABLE 1
EFFECT OF INTENSIVE THERAPY ON MARKERS OF LONG-TERM AND SHORT-TERM CONTROL

YEAR	N	Hemoglobin A_{1c} (%)	N	Pre-treatment glycated albumin (%)	P	Post-treatment glycated albumin (%)
1983	42	8.1 ± 0.3	30	16.5 ± 1.0	<0.0001	14.5 ± 0.8
1984		10.1 ± 0.3	21	16.7 ± 0.9	<0.0002	14.0 ± 0.6

half of the group demonstrated a change in glycated albumin levels from 19.2 ± 1.3% to 16.6 ± 0.8% and the lower half of the group from 13.8 ± 0.9% to 12.3 ± 0.8%. In 1984, the upper half demonstrated a change in glycated albumin levels from 19.2 ± 1.1% to 15.7 ± 0.6% and the lower half from 13.9 ± 0.9% to 12.1 ± 0.8%.

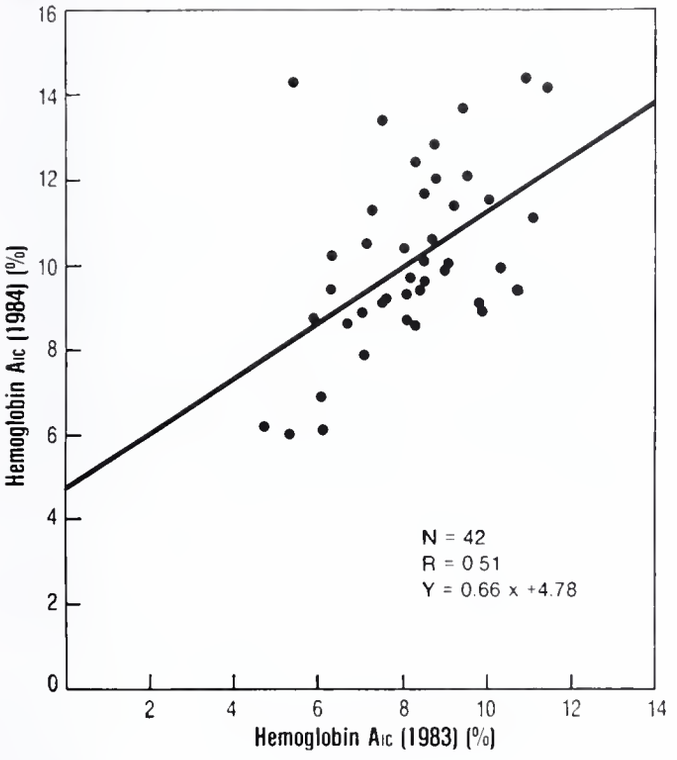


Figure 1.

Correlation of hemoglobin A_{1c} levels from 1983 and 1984. Hemoglobin A_{1c} levels of 42 subjects attending a summer camp for children with diabetes in 1983 were compared with hemoglobin A_{1c} levels from the same subjects in 1984. The diagonal line represents the line of best fit by least squares analysis.

DISCUSSION

We have evaluated the effectiveness of two weeks of monitored diabetes control and education on long-term blood glucose concentrations in children with IDDM. The decrease in extent of glycation of albumin during the study period indicates that improved glucose control was achieved. The degree of improvement, similar for both years, is consistent with reports of others,[12] as well as our own experience.[6] The effectiveness of the education program was demonstrated by an improvement in performance on a level of knowledge test.

Hemoglobin A_{1c} determinations were carried out at each camp period. Rather than being improved, the mean hemoglobin A_{1c} for the second year was 2% higher than that from the first year. This increase may reflect higher blood glucose levels during the 6-10 weeks before the second camp period, but could also be the result of changes in conditions of the hemoglobin A_{1c} assay. A significant relationship existed between each subject's hemoglobin A_{1c} determinations from the two years. Thus, the two week camp period did not result in a significant long-term change in each subject's blood glucose control. It might be suggested that the blood glucose of those subjects whose hemoglobin A_{1c} determinations were in the upper range were more difficult to control. However, improvement in glycation of albumin was similar for both groups. It is more likely that the similar hemoglobin A_{1c} determinations for each subject from the two years reflect the complex nature of blood glucose control in the child with IDDM. Level of blood glucose control represents an interaction not only of insulin, diet, and exercise, but is also influenced by psychological factors, school stress, and family dynamics, issues which are not addressed during the two week camp period. For children with IDDM much of the responsibility for diabetes management rest with parents. The similarity of each subject's yearly hemoglobin A_{1c} determination may reflect that each child is returned to the same home environment at the end of the camp period without attempting to explore or modify home care dynamics. Further, the structured camp environment provides dietary control, exercise, and rigorous monitoring of blood glucose to a degree greater than that which is easily achieved in most home environments.

More successful improvement in long-term blood glucose control might be achieved by periods of monitored control and education involving other family members.

More successful improvement in long-term blood glucose control might be achieved by periods of monitored control and education involving other family members (family camp), or by more frequent periods of intervention (weekend retreats). Although the yearly camp experience for children with IDDM does not result in long-term improvement in blood glucose control, it may provide improvement in other factors, such as survival skills, social skills, and self-esteem not addressed by this study.

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Nutritional Care of the Pregnant Diabetic Woman

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The treatment of diabetes mellitus has come a long way since 1797 when the diet consisted of rancid meat and old fat. A program of individualized patient care can be best developed if both the maternal and fetal risks are first considered. To establish treatment plans, based on these risks, pregnancy complicated by diabetes has been variously classified. The most popular classification used in the United States was that first developed by White.[1] Using an alphabetic system, women whose diabetes antedated pregnancy were grouped according to age of onset, duration of disease, the need for exogenous insulin, and the degree of vasculopathy (Table 1). One system used the terms juvenile onset and adult onset. Currently numbers are the system of choice from the National Diabetes Data Group and WHO:[2] Type I being insulin dependent; Type II non-insulin dependent; Type III gestational (Table 2).

The term gestational diabetes is defined as carbohydrate intolerance of variable severity with onset or first recognition during the present pregnancy. It applies whether or not insulin is used for treatment.[3] The second International Workshop-Conference on Gestational Diabetes Mellitus has supported use of this definition because it communicates the need for "high risk" surveillance to providers of third party payments or other health care financing. They also felt it would better convince women of their need for concerted care preconceptionally, prenatally, and post-partum.[4] Because gestational diabetes is by definition diagnosed during pregnancy, one cannot be certain that the woman will continue to have carbohydrate intolerance after delivery. Indeed, O'Sullivan has demonstrated that more than half of women with gestational diabetes will revert to and maintain normal carbohydrate tolerance in the postpartum period.[5] Hollingsworth prefers the term gestational carbohydrate intolerance as result of its descriptiveness and because its use is less likely to compromise the patient's employability and insurability.[2]

RISK ASSESSMENT

The known diabetic woman needs preconceptional counseling. She should know that her fetus is at increased risk for abnormal development (congenital malformations, macrosomia) and unexplained stillbirth. In addition, following birth, the infant may require special care for the first several days of life. She can exert control over her diabetes to lessen the risk. Often she has been permitted a liberal diabetic diet, adjusting her intake at will. However, she needs to learn about good nutrition and blood sugar control with strict adherence to a prescribed diet. Recently, Fuhrmann[6] and others have demonstrated that strict metabolic control of insulin-dependent women before conception significantly reduces the incidence of congenital malformations to a level comparable to that in non-diabetic women. The degree of glucose control during early embryogenesis also appears to determine the potential for anomalies. Glycosylated hemoglobin (HbAlc) measurements have proved to be a useful index of long term (4-6 week) control of hyperglycemia during pregnancy. Morris, et al.[7] evaluated the usefulness of monitoring glycemic control using concentrations of glycosylated serum protein and glycosylated hemoglobin by correlating these parameters with fasting and 2-hour postprandial glucose concentrations. The results were positive. They concluded that it was both clinically feasible and allowed frequent reappraisal of diabetic control. The Type II diabetic woman whose blood sugar is out of control is at risk for the same problems as Type I. The lack of need of exogenous insulin antenatally does not preclude the need for close monitoring prior to pregnancy. Women whose diabetes antedates pregnancy and those who develop diabetes during the pregnancy are at increased risk for urinary tract and vaginal infections, pre-eclampsia and other hypertensive disorders.

The known diabetic woman needs pre-conceptional counseling. Strict metabolic control of insulin-dependent women before conception significantly reduces the incidence of congenital malformations.

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Lack of good blood glucose control later in pregnancy continues to add to perinatal risk. Maternal hyperglycemia leads to fetal hyperglycemia which, in turn, results in fetal hyperinsulinemia. These contribute jointly to increased triglyceride synthesis and deposition of subcutaneous fat.[8] Problems for the macrosomic infant include: increased risk of birth trauma; hypoglycemia upon delivery when he loses his large sugar supply; and decreased surfactant production with the inhibition of pulmonary maturation. Lin, et al.,[9] studied 74 diabetic pregnant women and found that women who were able to maintain tight blood glucose control (fasting blood sugar < 90 mg/dL and non-fasting < 120 mg/dL) from before the 32nd week of gestation until delivery had a significantly reduced incidence of macrosomia. In another study by Willman, et al.,[10] the incidence of macrosomia was not found to increase significantly until the mean glucose concentration reached 130 mg/dL. They also found other factors strongly associated with fetal macrosomia. The risk of macrosomia was two times greater in women with mean glucose levels as previously stated, approximately threefold in women whose weight exceeded 80 kg., and one and one-half times greater in women with insulin dosages more than 80 units/day.

SCREENING FOR GESTATIONAL DIABETES

Gestational diabetes occurs in about 2%-3% of the pregnancies in the United States.[11] It usually develops during the second and third trimesters when levels of insulin antagonist hormones increase and insulin resistance normally occurs.

Women with gestational diabetes need as close monitoring as those with Type I and Type II diabetes. To identify them, some authors have recommended that *all* pregnant women should be screened for glucose tolerance since selective screening based on clinical attributes or past

TABLE 1

CLASSIFICATION OF DIABETES IN PREGNANCY*

Pregestational Diabetes

Class	Age of Onset (Years)	Duration (Years)	Vascular Disease	Therapy
A	Any	Any	0	A-1, Diet Only A-2, Insulin
B	> 20	< 10	0	Insulin
C	10-19 or	10-19	0	Insulin
D		10 or 20	Benign Retinopathy	Insulin
F	Any	Any	Nephropathy	Insulin
R	Any	Any	Proliferative Retinopathy	Insulin
H	Any	Any	Heart Disease	Insulin

Gestational Diabetes

Class	Fasting Glucose Level		Pregestational Glucose Level
A-1	< 105 mg/dL	and	< 120 mg/dL
A-2	≧ 105 mg/dL	and/or	≧ 120 mg/dL

*ACOG Technical Bulletin: Management of Diabetes Mellitus in Pregnancy. Number 92, May 1986.

TABLE 2

CLASSIFICATIONS OF DIABETES MELLITUS

Juvenile Onset Ketosis Prone Brittle	Insulin Dependent	Type I
Adult Onset Ketosis Resistant	Non-Insulin Dependent	Type II
Gestational	Gestational Carbohydrate Intolerance	Type III

obstetric history has been shown to be inadequate.[4] The test is given between the 24th and 28th week of gestation. It consists of 50 gm. oral glucose given without regard to time of the last meal or time of day. Venous plasma glucose is measured one hour later. A value of ≥ 140 mg/dL is the threshold indicating a need for a full glucose tolerance test. Whole blood glucose standards are approximately 15% less than plasma glucose values. O'Sullivan and Mahan's test procedure and diagnostic criteria are used.[12] The test is performed in the morning, after an overnight fast of 8-14 hours. For each of three days prior to the test, the woman is instructed to consume an unrestricted diet including at least 150 gm carbohydrate. A 100 gm oral glucose load is given. Venous plasma glucose is measured fasting and at 1, 2 and 3 hours. Definitive diagnosis requires two or more of the glucose concentrations to be met or exceeded: fasting, 105 mg/dL; 1 hour, 190 mg/dL; 2 hour, 165 mg/dL; 3 hour, 140 mg/dL.

METABOLIC CHANGES

In pregnancy, energy needs are increased. The primary fuel for the mother and fetus is glucose. The rate of fetal uptake of glucose is twice that of the adult. To facilitate these needs, there are two methods of glucose mobilization: (1) simple diffusion because the fetal blood glucose is 10-20 mg/100 ml lower than his mother's and (2) active transport in combination with alanine. Fetal insulin is already present at 12 weeks gestation, stimulated by increased glucose available from maternal circulation as well as increased amino acids. This transfer of glucose to the fetus plus decreased food intake in early pregnancy secondary to nausea and/or vomiting is thought to explain the reduced insulin requirements, sometimes by as much as ⅔ of pre-pregnancy needs. Short periods of fasting (voluntary or not) can produce a maternal glucose level 15 to 20 mg/100 ml lower than pre-pregnancy. Fasting in excess of 12 hours may produce a drop of as much as 40 to 45 mg/100 ml. This can lead to "starvation ketosis".[13] The net exaggerated response is evidenced by hypoglycemia, hypoaminoacidemia, hypoinsulinemia and finally hyperketonuria.[14] Ketones, to some extent, can be oxidized or used as precursors for fetal lipid or protein synthesis when glucose is unavailable. Amino acids are actively transported by the placenta from maternal to fetal circulation to meet fetal tissue synthesis needs. If the glucose supply drops, amino acids are utilized for energy rather than tissue growth.

During the later half of pregnancy, carbohydrate metabolism is stressed by rising levels of hormones from the placenta. Human placental hormone does three things: stimulates protein anabolism; is an insulin antagonist (to mother's insulin); and causes lipolysis, with a net effect of increasing the supply of glucose and amino acids available to the fetus. Cortisol also has three functions: is an insulin antagonist; stimulates gluconeogenesis; and enhances glucagon secretion. Two other insulin antagonists are estrogen and progesterone. The increased diabetogenic effects of the placental hormones outweigh the continuous drainage of glucose by the fetus, and insulin requirements are increased some 65% to 70% to maintain carbohydrate homeostasis.

MANAGEMENT

For a successful outcome, care must be planned on (1) sound principles of pregnancy and diabetes management, (2) close attention to diet, insulin, and exercise and (3) a schedule of care to meet changes throughout gestation.

The nutritional plans for the diabetic pregnant woman are based on the normal physiological adaptations of pregnancy, the altered metabolism of diabetes, and their interrelationships. From the nutrient needs calculated for each individual woman, a diet prescription is written that can be followed with the least problem to the patient. Without her compliance, all the numbers are ineffectual.

The pregnant woman needs to be a highly involved part of her health care team. She is the one person who has total responsibility for follow through of her care plan.

The pregnant woman needs to be a highly involved part of her health care team. She is the one person who has total responsibility for follow through of her care plan. The pre-pregnant diabetic woman has usually been exposed to nutritional counseling relative to her diet. She may have had a liberal diet, adjusting it at will. Adhering strictly to the prescribed diet may be as new a phenomenon to her as to the gestational diabetic woman approaching her diet limits for

the first time.[15] Gabbe recommends continuous surveillance at home with the use of glucose oxidase reagent strips and a glucose reflectance meter.[16] Glucose determinations are made while fasting and before each meal. A log of the values are kept for the clinician's review. The insulin regimen can be devised based on this data. Satisfactory control can usually be achieved with 2-3 daily injections of a combination of intermediate and short-acting insulin. Persson, B., et al.[17] compared the use of diet versus insulin and diet in women with gestational diabetes. They found no differences regarding achieved degree of maternal blood glucose control, obstetric or neonatal complications, or infants size at birth. However, 14% of the diet only group needed insulin for control, underlining the importance of monitoring blood glucose. The use of oral hypoglycemic agents during pregnancy remains controversial and cannot be recommended.[4] Urine should be monitored for ketones, at least in the fasting state.[18] The presence of ketonuria may indicate starvation ketosis or nocturnal hypoglycemia. This should then prompt nocturnal blood glucose monitoring and appropriate treatment, such as increasing the size of meals or snacks.

A fundamental cornerstone of management of the diabetic pregnant woman is her diet plan and control. Special attention must be given to the distribution of calories and carbohydrate intake at various times of the day to minimize blood sugar fluctuation.[14] Blood sugar should not be controlled by energy intakes that result in inadequate weight gain. The diet plan developed early in pregnancy is by no means static. It should be reviewed frequently and adjusted to reflect maternal weight gain, changes in activity, food intolerance and preference.[8]

Following the guidelines set for the non-diabetic pregnant woman, a weight gain of 22-27 pounds is the goal.[19] Less gain for obese women has been suggested in some studies when diet quality can be maintained at optimal levels. Naeye[20] has found a gain of 15 pounds adequate for the overweight woman, but a gain less than that resulted in an increased rate of perinatal mortality.

The National Research Council[21] recommends 36 Kcal/kg of pregnant body weight. Other suggestions in the same range are 30-35 Kcal/kg actual body weight.[14] The calories are then divided to provide 50% from carbohydrate, with a minimum of 250 gm; 20% from protein, 100 to 120 gm range; 30% from fat, encouraging polyunsaturates. From this, three meals and one to two snacks are established. The carbohydrate is divided so that 25% is at breakfast, 20-30% at lunch, 30% at dinner and 15% at the bedtime snack. Each meal and snack also needs some protein. The evening snack is very important to prevent early morning hypoglycemic episodes. When individualizing these guidelines, other factors such as food intolerances, preferences, nausea and/or vomiting, and ability to eat a given quantity of food need to be considered. Inflexibility is bound to meet with non-compliance. During times of illness, calorie levels must be maintained even if quality is temporarily lost. Hollingsworth emphasizes the following considerations: timing and consistency of intake for Type I women; using less calories per kilogram and lower total weight gain for obese Type II women; and using small frequent feedings of three meals and three snacks for thin women with Type II diabetes.

Food records can be valuable as both an evaluation tool with which to compare the blood sugar log, as well as a teaching tool to help the woman be more conscious of her intake.

Protein, fat and carbohydrate are not the only nutrients of concern. When providing dietary guidance, consideration must be given to calcium, iron, Vitamins A, C and folate. Variety in food choices helps assure adequate intake of other vitamins and minerals. The inclusion of four glasses of low-fat or skim milk provides the daily 1200 mg. of calcium while not being excessive in fat. If, however, the woman refuses milk because of allergy, intolerance or dislike, calcium-rich food alternatives or a supplement can be given while making up the protein, fat and carbohydrate component in other exchanges. Emphasizing the use of the fruit and vegetable exchanges using high Vitamin C and A and folate items meets these needs. (Table 3)

The level of complexity of the diet is based on the woman's learning ability. Ideally the exchange lists give the woman more versatility. If, however, she cannot comprehend it, try simpler plans with less choices, pictures, "Basic Four" and number of servings or even preplanned

menus. The diet must be at the woman's ability to follow to have any possibility of good control.

Food records can be valuable as both an evaluation tool with which to compare the blood sugar log, as well as a teaching tool to help the woman be more conscious of her intake and find where problems may lie. She needs to be able to do self-assessment. By reviewing a food record/diary with her, education as to assessment can be accomplished. Perhaps she'll be able to recognize if certain foods have adverse effects on her glucose levels. The clinician may be able to spot where increasing fiber content or trying glycemic indexing would help.

POSTPARTUM

Breastfeeding presents no problem to the diabetic woman.[3,14] As with the non-diabetic, there are the daily lactation needs for 500 calories above her own plus additional fluids. The quality of the diet should follow what she consumed while pregnant. Blood sugars are monitored and insulin varied accordingly.[11]

The woman with gestational diabetes should be evaluated at her first postpartum visit with a two-hour oral glucose tolerance test with 75 gm of glucose.[3] If the test is normal she is designated as previous abnormality of glucose tolerance. Repeat GTT's should be done annually.[23] An abnormal test should be designated diabetes mellitus in accordance with the criteria of the National Diabetes Data Group. The woman with the abnormal glucose tolerance is in obvious need of further nutritional counseling to help her maintain control. The woman with the normal test should also be counseled. The frequency of these women ultimately developing permanent diabetes may be more than half.[24] Helping the obese to lose weight and the others to keep from becoming obese may help delay or deter the time of their developing diabetes.[23]

TABLE 3

MEAL PATTERN AND MENU EXAMPLE IN EXCHANGES: 2240 CALORIES FOR 64 KG WOMAN

Food Group	Total	Breakfast	Lunch	Dinner	Bedtime
Milk	4	1	1	1	1
Meat	8	2	2	3	1
Bread	11	3	3	3	2
Vegetables	4	0	2	2	
Fruit	4	1	2	1	
Fat	3	1	1	1	

BREAKFAST:
- 1 cup 2% Milk
- 2 Scrambled Eggs (cooked in non-stick pan)
- ½ cup Bran Flakes with
- ½ sliced Banana
- 2 Whole Wheat Toast with
- 1 teaspoon margarine
  Diet Jelly

DINNER:
- 1 cup 2% Milk
- 1 Chicken Leg (thigh and drumstick), baked
- ½ cup Baked Beans (canned), no pork
- 1 2″ square Cornbread
- 1 cup Broccoli
- ¾ cup Strawberries

LUNCH:
- 1 cup 2% Milk
- 2 ounce Lean Hamburger on Bun with Tomato, Onion slices, Lettuce and Mustard
- ¾ cup Coleslaw
- 24 Grapes
- 1 small ear corn

BEDTIME:
- 1 cup 2% Milk
- 1 ounce sliced, Smoked Turkey on
- 2 Whole Wheat Bread Slices with Mustard and Lettuce

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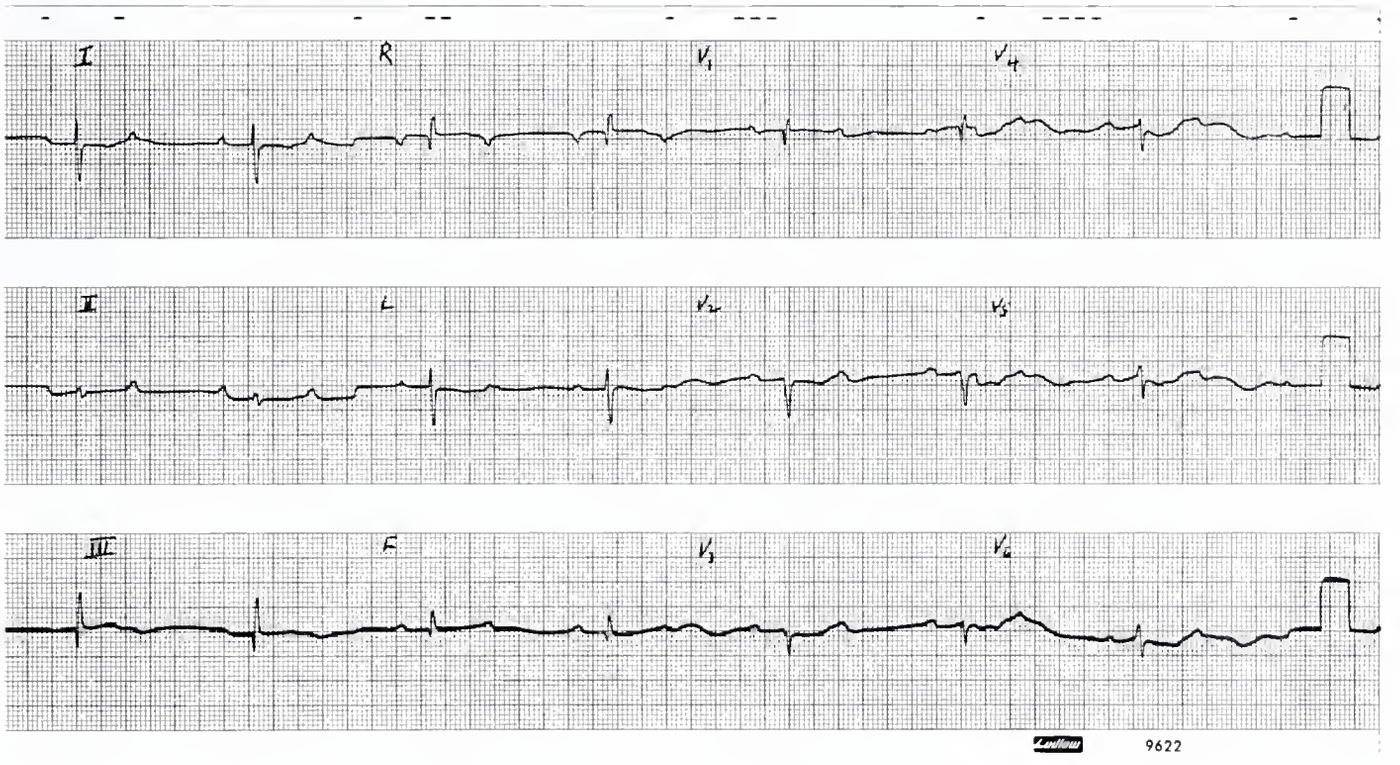
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ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 257)

HISTORY: J. F. is a 52-year-old man who was brought to the emergency section in a semicomatose state. History was scant. His physical examination revealed bradycardia and hypotension. The cardiogram was done to assist with his general evaluation. What do you think about the trace?



Ha Dinh, M.D., and John W. Watson, M.D.
UAMS - LRVAH Division of Cardiology
Little Rock, Arkansas



Orthopedic Trends

Colles' Fracture

I. Leighton Millard, M.D.*

In 1814, Abraham Colles held the Chair of Surgery at The Royal College of Surgery in Dublin. He is considered one of the founders of modern surgery. His study and treatment of the fracture of the carpal extremity of the radius led to the adoption of the eponym "Colles' fracture". The original description of his painstaking examination of the injured wrist, and his remarkable conclusion is reprinted here.[1]

"The posterior surface of the limb presents a considerable deformity; for a depression is seen in the fore-arm, about an inch and a half above the end of this bone, while a considerable swelling occupies the wrist and metacarpus. Indeed, the carpus and base of metacarpus appear to be thrown backward so much, as on first view to excite a suspicion that the carpus has been dislocated forward.

On viewing the anterior surface of the limb, we observe a considerable fullness, as if caused by the flexor tendons being thrown forwards. The fullness extends upwards to about one-third of the length of the forearm, and terminates below at the upper edge of the annular ligament of the wrist. The extremity of the ulna is seen projecting towards the palm and inner edge of the limb: the degree, however, in which this projection takes place, is different in different instances.

If the surgeon proceeds to investigate the nature of this injury, he will find that the end of the ulna admits of being readily moved backwards and forwards.

On the posterior surface, he will discover, by the touch, that the swelling on the wrist and metacarpus is not caused entirely by an effusion among the softer parts; he will perceive that the ends of the metacarpal, and second row of carpal bones, form no small part of it. This, strengthening the suspicion which the first view of the case had excited, leads him to examine, in a more particular manner, the anterior part of the joint; but the want of the solid resistance, which a dislocation of the carpus forward must occasion, forces him to abandon this notion, and leaves him in a state of perplexing uncertainty as to the real nature of the injury. He will therefore endeavor to gain some information, by examining the bones of the fore-arm. The facility with which (as was before noticed) the ulna can be moved backward and forward, does not furnish him with any useful hint. When he moves his fingers along the anterior surface of the radius, he finds it more full and prominent than is natural; a similar examination of the posterior surface of this bone, induces him to thank that a depression is felt about an inch and a half above its carpal extremity. He now expects to find satisfactory proofs of a fracture of the radius at this spot. For this purpose, he attempts to move the broken pieces of the bone in opposite directions; but, although the patient is by this examination subjected to considerable pain, yet, neither crepitus nor a yielding of the bone at the seat of fracture, nor any other positive evidence of the existence of

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such an injury is thereby obtained. The patient complains of severe pain as often as an attempt is made to give the limb the motions of pronation and supination."

He implies that most fracture diagnoses were made at that time by producing crepitus at the injury and points out that since crepitus is *not* present in this injury, many misdiagnoses were made (sprain and dislocation of the wrist).[1] His article also points out that this injury, if not diagnosed and properly treated produces considerable suffering and permanent deformity but eventual return to function. It is not to presume however that this function would be normal.

The definition of the wrist remains indistinct. Anatomically, the wrist joint is the interface between the radius and ulna and the proximal row of carpal bones. Functionally, the wrist includes the distal radius and ulna, hand and fingers. Normal fingers lose function if the wrist is abnormal and, conversely, a normal wrist joint is not of much value if the fingers are stiff and useless.

The fracture of the distal radius ("Colles' fracture") is most often caused by falls on the outstretched hand. It appears that forceful tension on the volar radius cortex causes the fracture line to appear and then compressive forces fracture the dorsal cortex.[2] The distal radial fragment is forced dorsalward and supinated with, frequently, comminution of the dorsal cortex.

DIAGNOSIS

The classical sign of Colles' fracture is the silver-fork deformity[3] (Figure 1). This "bump" on the dorsal wrist is sometimes obscured by swelling but can usually be palpated quite easily. The X-ray will then confirm the fracture (Figure 2). The presence of normal neurological and circulatory functions in the hand should be documented before treatment is undertaken. Nerve or artery damage is seldom encountered.

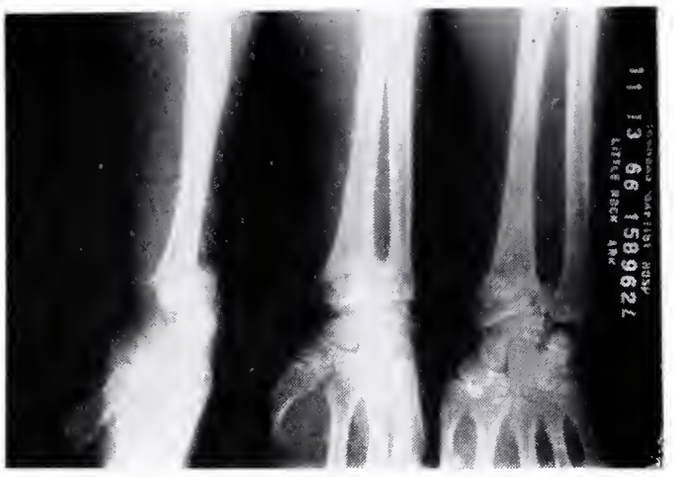


Figure 2.
Colles' Fracture.

TREATMENT

Anesthesia

Successful manipulation and reduction of the fracture depends on good anesthesia. This may be accomplished by infiltration of local anesthetic into the fracture hematoma, regional anesthesia such as brachial block or Bier block or general anesthesia.[4] Local or regional is usually selected to avoid an overnight stay in the hospital, and to avoid complications that sometimes accompany general anesthesia. In children, the addition of an IM "cath-mix" preparation is often necessary in order to gain the patient's cooperation. I have often found it necessary to remove the family from the treatment room in order to gain a child's confidence and cooperation.

Manipulation

This will require an assistant since counter-pull is necessary. With the "hand shake" technique (Figure 3), the operator can apply longitudinal traction and pronation with one hand while the other hand is applying pressure on the dorsal

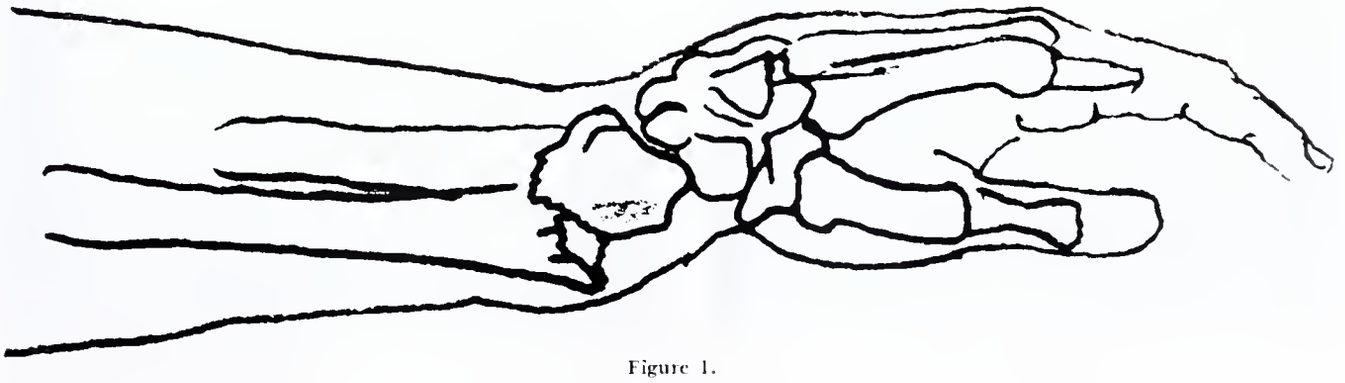


Figure 1.
Classical Silver Fork Deformity.

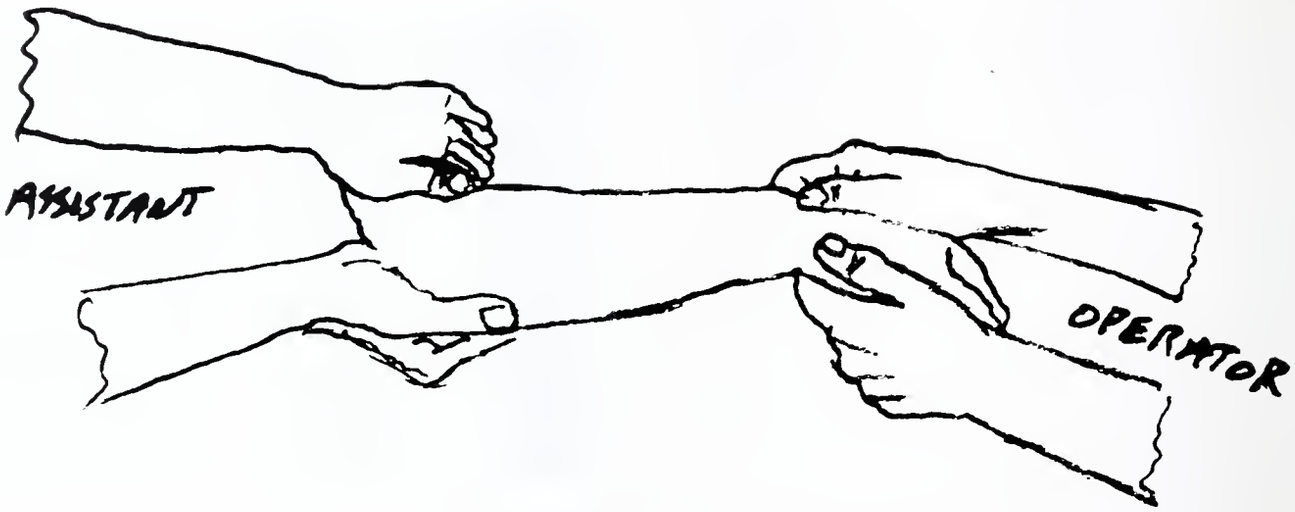


Figure 3.
Traction and Counter Traction To Manipulate Colles' Fracture.

wrist to force the distal fragment back in line. The hand is then pulled into flexion (only 10-20 degrees) and ulnar deviation in order to hold the reduction in place.

Immobilization

Long-arm cast, short-arm cast, or sugar tong cast may be used to maintain the reduction. The properly applied sugar tong (Figure 4A and 4B) is my personal choice and has many advantages, in that it maintains the reduction of the fracture, allows some elbow motion and is more easily released if severe swelling occurs. It also allows better finger motion. My prescription for a sugar tong is as follows (Figure 5A):

1. 3-4" rolls of Webril
2. 3 slabs of 3" × 15" plaster splints (8-10 in each slab)



Figure 4A.
Colles' Fracture: Reduced Antero-Posterior X-ray in Sugar Tong Cast.



Figure 4B.
Colles' Fracture: Reduced Lateral X-ray in Sugar Tong Cast.

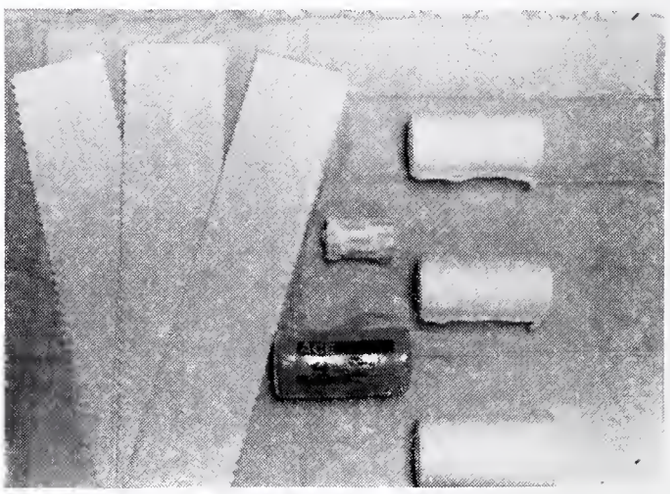


Figure 5A.
Materials For Sugar Tong Cast.

3. One 3″ roll of gauze
4. One 4″ ace bandage

The hand, forearm, elbow and 2-3″ of upper arm are padded with the Webril, giving special care to the bony prominences of the elbow and wrist. Two plaster slabs are soaked in luke-warm water and applied to the dorsal and volar forearm with care not to block motion of the fingers (Figure 5B). The slabs should not extend over



Figure 5B.
Position of Plaster Slabs For Sugar Tong Cast.

the knuckles and should not encroach on the proximal palmar crease. The third slab is then used to connect the first two around the elbow, being sure the elbow is at 90 degrees. The gauze is then thoroughly wetted and used to wrap the slabs snugly in place (Figure 5C). Be sure to cut



Figure 5C.
Gauze Wrapping For Sugar Tong Cast.

the guaze back as necessary at the fingers and thumb so as not to restrict movement. Then while the plaster is setting the wrist is again molded, with the palms of the hands (not fingers) into slight flexion and ulnar deviation. A check x-ray is then made and if reduction is adequate the ace wrap is applied (Figure 5D). The well reduced, uncomplicated Colles' fracture should be casted for five to six weeks, and protected by



Figure 5D.
Ace Wrap For Sugar Tong Cast.

splinting for two to three more weeks while the patient is undergoing physical therapy to regain motion and strength.

In the very elderly patient with comminution of the fracture, remember as you proceed with anesthesia, reduction and casting that the patient might rather accept deformity of the wrist and have good use of the hand and fingers than to have stiff painful fingers without any deformity.

In many cases, a discussion of alternatives with the patient and family will reveal the patient's desires for a less than anatomical reduction and a shorter period of time in cast with emphasis on motion and strength.

POST-REDUCTION

Instructions

In some cases, a perfect reduction and casting is of no value because of inadequate instructions to the patient. In most cases swelling will be a problem for 24-48 hours post-reduction. If elevation, ice packs and joint movements are adequately explained to the patient, the swelling can be minimized. It is very important to emphasize to the patient that finger motion must be carried out both actively and passively (using the opposite hand to be sure to get full interphalangeal and metacarpophalangeal joint flexion) and to give instructions for elbow and shoulder exercises. Since carpal tunnel syndrome may occur the patient should also be told to call the doctor or return immediately if any numbness, tingling, or pain appears in the *fingers*.

The patient may be saved some worry and anxiety if an explanation is given in regard to bleeding from the fracture. This bleeding may dissect distally and cause bluish discoloration (often described as black by the patient) of the hand. If the fingers are warm and free of pares-

thesias, this bleeding is of no severe consequence and will disappear with time.

Follow-up

The patient should be examined and the fracture x-rayed in five to seven days in order to be sure that no complications are present or impending and that the fracture reduction is maintained. At this time the sugar-tong cast may be loose because the swelling has decreased. It can be tightened by removing the ace wrap and applying a four inch roll of plaster around the forearm to take up the slack.

In those cases where comminution of the dorsal radius cortex allows collapse of the fracture, remanipulation with either recasting, or if necessary with application of an external fixation device (EFD) (Figure 6) can be done at this one week check-up.



Figure 6A.
AP and Lateral X-rays of Remanipulated Colles' Fracture with EFD in Place.

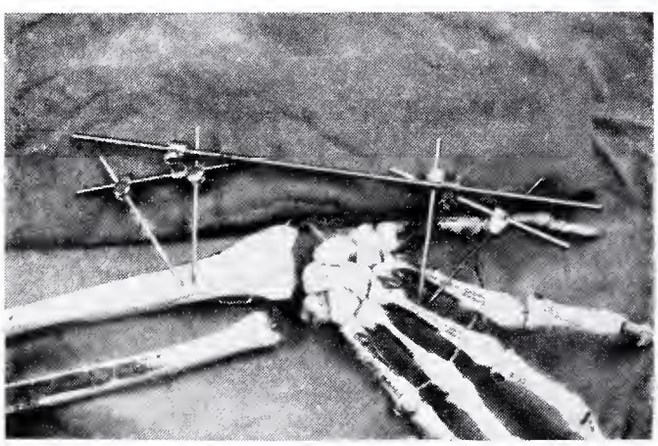


Figure 6B.
Skeletal Model of Application of EFD.

The EFD procedure usually requires general anesthesia and is most safely done as an elective procedure. The device can usually be removed without general anesthesia after six to eight weeks of treatment. Unfortunately most elderly patients will never regain full motion of the wrist and fingers after this procedure because of the long term traction and immobilization. Therefore I recommend that the EFD usually be reserved for extremely comminuted fractures or in relatively younger people with articular surface fracture components.



Figure 6C.
Patient with EFD in Place.



Figure 6D.
Patient with EFD in Place.

DISCUSSION

Colles' fracture is a very common injury that afflicts young and old alike. Early diagnosis and proper treatment will allow the patient to achieve good function in the hand and wrist unit. There are some caveats to remember.

1. Avoid a cast that is initially too tight or might become so if later swelling occurs.
2. Be sure to provide for and maintain finger, elbow and shoulder movement during and after treatment.

3. Watch for compression of the median nerve.
4. Be alert to loss of reduction position and alignment during treatment.
5. Last but not least, be very careful not to overtreat the very elderly patient. Remember that function of the hand is more important than absolute anatomic reduction (a pretty x-ray) that leaves the fingers stiff and painful.

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ANSWER — Electrocardiogram of the Month

DISCUSSION: There is o P wove before eoch QRS complex with o PR intervol of 0.26 seconds. Every other P wove is nonconducted ond the P woves are regulor. Thus, 2:1 heort block is present with otriol rote 83 per minute ond ventriculor rote 42 per minute. This could well represent Mobitz II block. The QRS is not wide. The oxis of the QRS is indeterminote. Acute inforction is not suggested on the troce but it weokly suggests post inforction of the septum. The cordioc mechonism stonds os o potentiol etiology of the potient's hypotension ond poor mentol stotus. The editor wishes to thonk Dr. Dinh of the UAMSC Division of Cordiology for his contribution to this month's feoture.



EDITORIAL

Don't Forget the Zebras

Dr. A. S. Fitzhugh

Guest Editor

Somewhere in my early career I was counseled by one of my older physician friends, "If you hear hoof beats, don't expect to look and see zebras." He could have added that, although improbable, zebras are real. Once in a great while a rare diagnosis (zebra), will be missed if it is not thought about.

A few months ago a very nice lady from southwest Arkansas called me and asked for help. From the intensity of feeling that she communicated I felt certain she was championing some type of cause. Sure enough, I was correct. She was the victim of a rare bladder problem called Interstitial Cystitis. My first reaction was that public health has its hands full in handling the common, everyday, health problems and these rare diseases should be in the domain of Universities and appropriate specialists. However, after listening awhile to her history, I had second thoughts. She had been seen by several physicians, including urologists, without a diagnosis being made. Through reviewing the literature, I learned what a painful, devastating disease this is. It seems that the public and health providers should have a knowledge of the problem.

Interstitial Cystitis is a disease of unknown etiology, usually affecting adult females who have urgency and frequency (average 60 to 100 times a day), severe suprapublic discomfort or back and perineal pain. The disease can have devastating consequences—the patient may be incapacitated, unable to hold a job and incapable of having sex. It is estimated that 500,000 people in the United States have I.C.

Diagnosis may be suspected by history and confirmed by cystoscopy. There is usually reduced bladder capacity, petchial hemorrhage of bladder wall, and there may be typical ulcers called Hunner's Ulcer. Urine cultures are usually negative. The diagnosis can be made, if it is suspected, through culture and cystoscopy. A bladder biopsy should be obtained if lesions of a suspicious nature are found. Unfortunately, the usual history is one of repeated treated "cystitis" or even psycho neurotic labels with the frustrated patient desperately seeking a solution to the problem.

Treatment is disappointing and like many diseases that are not amenable to therapy, the treatments that have been tried are legion. There are three main treatments being used with minimal success — DMSO Bladder Installation, Silver Nitrate Installation and Bladder Distension. There *is* research being conducted by the National Institute of Health.

There is a National Association of Interstitial Cystitis victims in the U. S. The group was formed two years ago and had their first national conference in Boston in September. The group serves as an information clearinghouse and support network for I.C. sufferers. They are also trying to gain the attention of physicians across the country as well as the public. They would like to establish a national registry so facts and data about the disease can be recorded, and they are concentrating their efforts on raising funds for research. An appeal has been made to Congress for research funds. Their address is ICA, Inc., Post Office Box 1553, Madison Square Station, New York, New York 10159. The Arkansas Chapter is headed by Mrs. Artha Chastain, 203 North Sixth Street, Arkadelphia, Arkansas 71923.

If we don't think of the zebras, we might be embarrassed by some well-informed layman who had read of this disease or heard about it on television.

Dr. Fitzhugh is the Deputy Director of the Arkansas Department of Health.

Squamous Cell Carcinoma of the Supraglottic Larynx

W. Ducote Haynes, M.D., Carlos A. Araoz, M.D., Tony A. Flippin, M.D.,

Terrence A. Oddson, M.D., and A. Reed Thompson, M.D.*

PROBLEM

A 73-year-old man with squamous cell carcinoma of the supraglottic larynx came to the St. Vincent Infirmary Cancer Center for a second opinion regarding the management of his case. He had a long history of chronic smoking and alcohol ingestion. He noticed a slowly enlarging "knot" in the upper left neck for approximately one month. Also, he had noticed hoarseness for several weeks. He consulted his local physician and was subsequently referred to an ear, nose and throat specialist who found a neoplastic lesion involving the upper part of the epiglottis. This was biopsied and reported as squamous cell carcinoma. The patient was also confirmed to have a large node in the left upper neck. It was recommended that the patient undergo wide field laryngectomy and bilateral neck dissection.

Physical examination showed an elderly male patient who seemed fairly healthy. Examination confirmed a 4 cm, movable, lymph node in the upper left jugular region. No nodes were found on the right. Examination of the laryngeal area indirectly revealed an exophytic tumor mass replacing the superior aspect of the epiglottis. On the left side, the tumor mass extended anteriorly toward the vallecula, and on the right side, it extended posteriorly. There were some dysplastic and leukoplakia type changes observed on the lower aspect of the laryngeal surface of the epiglottis and similar changes on the right true vocal cord. The vocal cords moved freely. Pyriform sinuses were free of disease, and there was no evidence of infiltration of tumor into the preepiglottic space.

PATHOLOGY REVIEW

Dr. Araoz: Sections showed a moderately differentiated squamous carcinoma, G2, with keratinization and attempts at pearl formation.[1]

DIAGNOSTIC X-RAY EVALUATION

Dr. Oddson: Chest film showed some apical, pleural scarring bilaterally, which was confirmed on CT scan to be compatible with old pleural thickening from granulomatous disease. CT scan of the primary tumor area confirmed the large tumor mass involving the upper epiglottis. There was no evidence of cartilaginous destruction and no tumor identified in the preepiglottic space. The adenopathy was confirmed on the left without additional lymph node disease being identified.[2,3]

SURGICAL OPTION

Dr. Thompson: This tumor is classified as being a T2N2M0 lesion of the supraglottic larynx. The tumor primarily involves the upper part of the epiglottis and is favorable because of its exophytic nature. The edema in the preepiglottic space observed is a bit worrisome because involvement in this area would make the patient have a T3 classification.

The patient's referring physician recommended total laryngectomy and radical neck dissection, probably to be followed by radiation therapy. That recommendation is perhaps the best treatment for cure of the disease, but there is an excellent chance of controlling the primary tumor with radiation and, therefore, saving the laryngeal function. Thus, full course radiation to the primary tumor and both sides of the neck followed by a modified radical or a radical neck dissection on the left side is recommended.[4,5] If the primary lesion cannot be controlled in patients given this form of treatment, about 50% of the patients should be salvaged surgically with a total laryngectomy.

It should be emphasized that the patient needs to stop smoking immediately and needs to reduce his alcohol consumption following recovery from treatment.

*St. Vincent Infirmary Cancer Center, St. Vincent Infirmary, Two St. Vincent Circle, Little Rock, Arkansas 72205.

RADIOTHERAPY OPTION

Dr. Haynes: I agree with the approach as outlined by Dr. Thompson. This tumor is an exophytic lesion involving the superior aspect of the epiglottis which we refer to as the suprahyoid epiglottis. These tumors are different from the rest of the tumors in the supraglottic area as they are frequently exophytic and do have a high degree of control with radiation. The studies from M. D. Anderson Hospital have revealed approximately 75% control by way of radiation therapy alone with T2 and T3 lesions. It is very significant as mentioned by Dr. Thompson that almost all of the T2 lesions are controlled with surgical salvage and most of the T3 lesions will also be salvaged. This patient will need full course radiation therapy to the primary tumor with the radiation portals including the entire lymph drainage on both the right and left sides of the neck. Approximately four to six weeks after the radiation, he should have surgical removal of the left neck disease probably in the form of a modified neck dissection. At the time of the neck dissection, the primary lesion can be thoroughly evaluated.[4,5] In order to tolerate the radiation, the patient will need to stop smoking as noted by Dr. Thompson.

MEDICAL ONCOLOGY OPTION

Dr. Flippin: A moderate amount of investigational work is now being published using chemotherapy both before, during and after surgery and/or radiation therapy.[6,7] However, in this particular case with the high chance of control with the combination of radiation and surgery, chemotherapy would not be appropriate unless recurrent disease develops at a later date.

CONSENSUS

Because of the particular location and exophytic nature of this patient's disease, our recommendation was full course radiation therapy to the primary lesion followed by neck dissection on the left side. This recommendation was given to the patient and was also forwarded to his physicians.

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From Other Years

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

Journal of the Arkansas Medical Society
Vol. 8 No. 2 Feb., 1897 p. 64

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Editorial Department.

A Troubled Doctor.

A correspondent from the Indian Territory writes to the editor for a copy of the State laws governing the practice of medicine in Arkansas. He states that several old ladies are practicing medicine in his locality in defiance of written and unwritten law. Also these irregular and aggressive "Gamps" collect fees for their services which are thus lost to organized medicine and diverted into the pockets of the enemies of science. We regret that we have little else than sympathy to offer our confrere. We cannot see how the laws of Arkansas can restrict and control refractory females in other States and Territories. The truth is, that Arkansas cannot take care of her own irregulars. We can refer our colleague, however, to the works of Mr. Billings, where he will find much that is instructive and comforting. It contains the sermon that "The best way to manage a woman is to let her do it herself." Let us hope that our correspondent will see in this the solution of his troubles.

———

Place the Blame Where it Belongs.

The pages of a daily paper in this city recently contained an article reflecting upon the Gould system for inhuman treatment of a former employee. We do not see, even from the lurid description of the occurrence given by the reporter of the morning paper, how the railway company are to be to blame for lack of medical attention in this case. The blame rests with the imperfect and faulty system of laws which will not permit the city authorities to raise the needed funds to equip and maintain a hospital already built and presented to the city by Logan H. Roots estate. Had the board of control the necessary funds, the emergency wards would be open for just such unfortunates, and the public would have been spared the revolting details of neglect which occurred to this unhappy sufferer. Let us hope that funds will be forthcoming speedily which will make such occurrencies impossible.

MEDICINE IN THE NEWS



ARKANSAS PEDIATRICIANS RECEIVE AAP AWARD

The American Academy of Pediatrics announced recently that its Arkansas Chapter will receive the 1986 Wyeth Award. The award is sponsored by Wyeth Laboratories and is given annually for excellence in programs that promote the health and welfare of children.

The Arkansas Chapter of the AAP has 120 members and was involved in the sponsorship of camps for chronically ill and handicapped children, the development of a child sexual abuse manual, and representation on the state legislative committees.

The award was presented to the chapter at the AAP annual meeting in Washington, D. C.

WARNER BROWN BEGINS FIRST IN-STATE PROGRAM FOR MEDICARE PATIENTS

A free healthcare counselling and coordination service for the elderly has been developed by Warner Brown Hospital in El Dorado. It is be-

lieved to be the first of its kind in Arkansas.

The new operation, the Golden Assurance Program (GAP) is an outreach program which will have a coordinator to assist the Medicare beneficiary in understanding their healthcare bills and the government's payment process. Mary Ann Brewer, a hospital staff person, will be the coordinator. She said she will assist the people who might have questions about coverage by Medicare and Medicare supplements.

To qualify for GAP, the person must be enrolled in Medicare "A" or "B" and be covered by an approved Medicare supplemental insurance policy.

It's not their intention to get into the insurance business, according to Fred Smith, president and administrator of Warner Brown, "however, the truth is, many elderly people do not understand their coverage and many are paying for coverage that they do not need, or that duplicates coverage that they already have."

GOLDEN ELECTED TO ASIM BOARD

William E. Golden, M.D., a Little Rock doctor of internal medicine, was elected to an unexpired two-year term as a member of the board of Trustees of the American Society of Internal Medicine (ASIM) at the Society's 30th Annual Meeting in Seattle. ASIM is a federation of state component societies with more than 20,000 members nationwide.

Dr. Golden has a bachelor's degree from Brown University and a medical degree from Baylor College of Medicine. He was certified by the American Board of Internal Medicine in 1982. He holds a number of academic positions at the University of Arkansas for Medical Sciences, including director of the Division of General Internal Medicine, assistant professor in the Department of Medicine and adjunct assistant professor in the University of Arkansas' Health Administration Program. He is also the president of the Arkansas Society of Internal Medicine and an active member of the American Medical Association.

FAMILY MEDICINE SPECIALISTS MAJORITY IN AMBULATORY CARE CENTERS

The American College of Emergency Physicians released the results of its study about the staff of the nation's ambulatory care centers (ACCs), revealing that 38 percent of the physicians employed at ACCs are family medicine specialists. This is a reversal of the trend of the early beginnings of ACCs, when emergency medicine specialists were the leading specialty represented. According to the recent study, emergency medicine physicians represented only 23.6 percent and internal medicine specialists represented 23.7 percent of the staffing.

The survey shows that physician corporation is the most frequent ownership arrangements, with 27.4 percent falling into that category. Non-physician corporations hold 20.3 percent of the market, with hospital affiliation in third at 19.3 percent.

Additionally, approximately 60 percent of all ACCs are part of a chain. Of those affiliated with chains, 53.1 percent are a part of a chain with five or less facilities and 61 percent are affiliated with a chain of three or less.

CDC GRANTS AWARDED TO ARKANSAS

The federal Centers for Disease Control has awarded two grants totalling $260,000 to Arkansas. The grant money is to be used for AIDS testing and education, according to Donnie Smith, the AIDS Co-ordinator for the state Health Department.

The Health Department hopes to establish a toll-free AIDS hotline at the Department and begin gathering pamphlets and audio-visual materials into a library about acquired immune deficiency syndrome. The Department plans to use a $133,000 grant for this purpose. The grant is an AIDS Health Education Risk Reduction Grant.

The additional $127,000 will provide money for testing and counseling people who suspect they may have been exposed to the virus.

TERM GUARD: NEW MONITORING DEVICE FOR PROBLEM PREGNANCIES

The Ochsner Clinic obstetricians have developed a new monitoring device called the Term Guard to be worn by pregnant women who have an increased risk of premature birth or are having a high risk pregnancy. The device, a light weight monitor, is worn for an hour each morning and evening. It contains a sensor placed on the abdomen and is worn on a belt, together with an over-the-shoulder recording instrument. At the end of the day, the patient places the recorder portion of the device on the telephone, equipped with a modem, which then provides the physician with a graphic print-out in his office, similar to those produced by an electrocardiogram. The physician is able to determine whether uterine

activity is normal or excessive and he can prescribe treatment if necessary.

The Term Guard device has gone through testing procedures showing it to be safe and has been approved for use by the Federal Drug Administration. The Ochsner physicians have used the device on approximately a dozen patients and the results have been encouraging. The monitor could be used for patients who are high risk, such as those with diabetes and multiple births, but also in many first pregnancies. Thirty percent of all premature labor occurs in the first pregnancy.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

CHEST CONFERENCE—EMPHYSEMA

Presented by William Stead, M.D., Little Rock, *November 19, 12:30 luncheon.* St. Michael Hospital, Texarkana. One hour Category I credit. Sponsored by AHEC-Southwest, Texarkana.

ORTHOPAEDIC SURGERY SEMINAR

Presented by David S. Hungerford, M.D., Chief, Division of Arthritis Surgery, Good Samaritan Hospital, Baltimore, Maryland, *November 21, 7:30 a.m.-5 p.m.* Will be using model bones for P.C.A. Knee surgery and P.C.A. Hip surgery. Holiday Inn West, 201 South Shackleford, Little Rock. Sponsored by St. Vincent Infirmary.

PSYCHIATRY UPDATE 1986

Presented by G. Richard Smith, M.D., *November 21-23, Time to be announced.* Excelsior Hotel, Little Rock. Approximately eight Category I credit hours. Fee to be announced. Sponsored by the UAMS Office of Continuing Education for Physicians.

MYOCARDIAL ISCHEMIA—AN UPDATE

Presented by Stephen E. Epstein, M.D., Washington, D. C., *December 10, 5:30 p.m.-10:00 p.m.* Three hours Category I credit available. Holiday Inn, I-30 & State Line, Texarkana. Sponsored by AHEC--Southwest.

CHEST CONFERENCE

Presented by William Stead, M.D., *January 21, 1987, 12:30 p.m. luncheon.* One hour Category I credit. St. Michael Hospital, Texarkana. Sponsored by AHEC- Southwest.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one or two hours Category I credit.

EL DORADO — AHEC-SOUTH ARKANSAS

Behavioral Sciences Conference, first and fourth Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:00 p.m., Warner Brown Hospital.
Gynecology-Pathology Conference, second Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Pathology Conference, second Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Obstetrics-Gynecology Conference, fourth Thursday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Surgical Conference, first, second, and third Monday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Tumor Clinic, fourth Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.

FAYETTEVILLE — AHEC-NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Medical Conference, each Wednesday, 11:30 a.m., VAMC.

FORT SMITH — AHEC

Cardiology Conference, first Wednesday, 12:30 p.m., Sparks Regional Medical Center.
Dermatology Conference, first Thursday, 12:30 p.m., Sparks Regional Medical Center, Library.
Family Practice Conference, third Wednesday, 12:30 p.m., Sparks Regional Medical Center, Library.
Gastroenterology Conference, first Friday, 12:30 p.m., Sparks Regional Medical Center, Library.
Neurology Conference, second Thursday, 12:30 p.m., Sparks Regional Medical Center.
Obstetrical/Gynecology Conference, third Thursday, 12:30 p.m., Sparks Regional Medical Center, Library.
Thoracic/Cardiovascular Conference, third Thursday, 12:30 p.m., Sparks Regional Medical Center, Library.

JONESBORO — AHEC-NORTHEAST

AHEC Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., AMH, Paragould.
Chest Conference, fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Interesting Case Conference, second and fifth Tuesday, when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Cafeteria, Methodist Hospital of Jonesboro.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Alternating Sub-Specialty Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
General Pediatrics Seminar, first and third Friday, 12:00 noon, Second Floor Classroom.
Genetics Conference, each Wednesday, 12:00 noon, ACH Clinic Conference Room.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Oncology Conference, third Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Pediatric Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pediatric Neuroscience Conference, first Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Pharmacology Conference, fifth Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Radiology Conference, first and third Thursday, 12:00 noon, Second Floor Classroom.
Pediatric Research Conference, third Monday, 12:00 noon, Second Floor Classroom.
Problem Case Conference, second and fourth Friday, 12:00 noon, Second Floor Classroom.
Respiratory Care Case Conference, each Monday, 3:00 p.m., Second Floor Classroom.

LITTLE ROCK — ST. VINCENT INFIRMARY

Cancer Conference, first Wednesday, 12:00 noon-1:00 p.m., CARTI Auditorium. A meal is provided.
Cancer Conference, third and fourth Thursday, 12:00 noon-1:00 p.m., Room S1174K, Laboratory. A meal is provided.
General Medicine Journal Club, first and third Tuesday, 12:00 noon-1:00 p.m., Medical Affairs Conference Room. Bring your lunch.
Hematology-Oncology Conference, second Thursday, 12:00 noon-1:00 p.m., Laboratory Library. A meal is provided
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m.-6:30 p.m., Classroom 1, Education Wing. Refreshments are provided.
Neuropathology Conference, third Tuesday, 5:00 p.m.-6:00 p.m., Room S1174K, Laboratory. Refreshments are provided.
Pediatric Conference, first Tuesday, 12:30 p.m.-1:30 p.m., Classroom 1, Education Wing. A meal is provided.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m.-7:00 p.m., Classroom 1, Education Wing. A meal is provided.
Pulmonary Conference, second and fourth Wednesday, 12:00 noon-1:00 p.m., Classroom 1, Education Wing. A meal is provided.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Anesthesia Lecture Series, each Tuesday, 7:00 a.m.; each Wednesday, 4:00 p.m., UAMS Education Building, Room G/106.
Anesthesia Morbidity and Mortality Conference, each Thursday, 4:00 p.m., UAMS Education Building, Room G/106.
GI Basic Science Conference, each Thursday, 7:30 a.m., UAMS Education Building, Room G/108 A & B.
Interdisciplinary Gynecologic Cancer Conference, each Friday, 12:30 p.m., UAMS Education Building, Room G/106 A & B.
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.
Medicine Research Conference, each Tuesday, 8:00 a.m., UAMS Shorey Building, Room 8/105.
OB/Gyn Grand Rounds, each Wednesday, 7:30 a.m., UAMS Education Building, Room G/141B.
Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m., UAMS AAC Eye Clinic, Room 3/150. 2 hours credit.
Orthopaedic Fracture Conference, each Tuesday, 7:30 a.m., UAMS Education Building, Room B/135.
Orthopedic Basic Science Conference, each Tuesday, 11:00 a.m., UAMS Education Building, Room B/135.
Orthopaedic Bibliography Conference, each Tuesday, 8:30 a.m., UAMS Education Building, Room B/135. 1½ hours credit.

Orthopaedic Grand Rounds, each Tuesday, 10:00 a.m., UAMS Education Building, Room B/135.
Psychiatry Grand Rounds, each Friday, 11:00 a.m., UAMS Shorey Auditorium.
St. Vincent Urology Grand Rounds, first Tuesday, 5:30 p.m., St. Vincent Infirmary, Education Building, Room 159.
Surgery Grand Rounds, each Saturday, 8:00 a.m., UAMS Education Building, Room G/131.
Surgical Science Conference, each Tuesday, 11:00 a.m., UAMS Education Building, Room G/131.
Urology Grand Rounds/Urologic Topics, two to three times monthly (each), 5:00 p.m., UAMS or VAMC.
Urology Morbidity and Mortality Workshop/Uro-Radiology Workshop, once monthly, 5:00 p.m., UAMS (dates vary).
VA Medical Service Teaching Conference, each Thursday, 8:00 a.m., NLRVA, Building 66, Room 38.
VA Surgery Grand Rounds, each Thursday, 12:45 p.m., LRVA, Room 2D109.
VA Weekly Cancer Conference, (Surgical Service), each Tuesday, 1:00 p.m., LRVA, Room 2D109.

LITTLE ROCK — BAPTIST MEDICAL CENTER
Anesthesiology Conference, third Thursday, 7:00 a.m.-8:00 a.m., Conference Room 1.
Grand Rounds Conference, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room 1. Lectures and Case Presentations. A light lunch will be served.
Pathology Conference, third Tuesday, 3:00 p.m. to 4:00 p.m., Pathology Library, Case Presentations.
Pulmonary Conference, each Tuesday, 12:00 noon, Shuffield Auditorium. Lunch served for $1.75.
Surgery Conference, each Thursday, 7:30 a.m., Conference Room 2. Lectures and Case Presentations.

PINE BLUFF — AHEC
Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC
Neuro-Radiology Conference, second and fourth Wednesday, 7:00 a.m. breakfast, Wadley Regional Medical Center, 1000 Pine Street, Texarkana.
Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.



THINGS TO COME



December 3-7

Ear, Nose and Throat Diseases in Children: A 1986 Update. Sponsored by the Department of Otolaryngology and Pediatrics, Children's Hospital of Pittsburgh. The Breakers, Palm Beach, Florida. 17 CME Category I credit hours. Fee: $275 for physicians; $200 for residents. For further information contact: Department of Otolaryngology, Children's Hospital of Pittsburgh, 125 De Soto Street, Pittsburgh, Pennsylvania 15213; (412) 647-6215.

December 14

Antarctic Medical Seminars. The Lecture Room of the ship M. S. Society Explorer. Depart and return to Miami, Florida. Sponsored by International Medical Seminars. Itinerary will be Punta Arenas, Chile, Strait of Magellan, Beagle Channel, Cape Horn, Drake Passage, Antarctic Peninsula, Falkland Islands, and South Georgia. 25 hours CME Category I credit. Additional cruise dates: January 9, 1987 and January 30, 1987. Fee for medical seminar tuition is $400. For additional information contact: International Medical Seminars, 125 Main Street, Westport, Connecticut 06880; (203) 222-0560 or 1-800-551-0019.

December 19-20

Advances in Gastrointestinal Surgery. Sponsored by the University of Kentucky, College of

Medicine. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit available. For more information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, KY 40536; (606) 233-5161.

January 18-24, 1987

Legal Medicine: The New Solution. Sponsored by the University of Kansas Medical Center. Puetro Vallerta, Mexico. 16 Category I AMA, AAFP credit hours available. For more information contact: Ellen Buttron, University of Kansas Medical Center, 39th and Rainbow Boulevard, Kansas City, KS 66103; (913) 588-4494.

January 19-23, 1987

Diagnostic Radiology Seminar. Sponsored by the University of California, San Francisco. Camino Real, Ixtapa, Mexico. 22 hours Category I credit; 22 ECE points for technologists. Fee: $495 for physicians; $395 for residents, fellows, nurses, and technologists with letter of verification. For further information contact: Radiology Post Graduate Education, University of California, Room C324, Third & Parnassus, San Francisco, CA 94143; (415) 476-5731.

January 28-29, 1987

Advanced Cardiac Life Support Provider Course. Sponsored by the University of Kansas Medical Center. University of Kansas Medical Center, Kansas City, Kansas. 13.5 Category I credit hours. Fee: $200.00 physicians; $90.00 Nurses, MICT's and others. For more information contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, Office of Continuing Education, 39th and Rainbow Blvd., Kansas City, KS 66103; (913) 588-4488.

February 1-6, 1987

Diagnostic Radiology Seminar. Sponsored by the University of California, San Francisco. The Gant, Aspen, Colorado. 24½ AMA Category I credit hours; 24½ ECE points for technologists. Fee: $495 for physicians; $395 for residents, fellows, nurses, and technologists with letter of verification. For further information contact: Radiology Post Graduate Education, University of California, Room C324, Third & Parnassus, San Francisco, CA 94143; (415) 476-5731.

February 22-27, 1987

Eighteenth Family Medicine Review. Sponsored by the University of Kentucky, College of Medicine. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit hours available. For more information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, KY; (606) 233-5161.

February 22-27, 1987

Diagnostic Imaging: Update 1987. Sponsored by the University of California, San Francisco. Shadow Ridge, Park City, Utah. 23½ hours AVA Category I credit hours; 23½ ECE points for technologists. Fee: $495 for physicians; $395 for residents, fellows, nurses, and technologists with letter of verification. For further information contact: Radiology Post Graduate Education, University of California, Room C324, Third & Parnassus, San Francisco, CA; (415) 476-5731.

February-April 1987

Twenty-Eighth Annual Postgraduate Institute for Pathologists in Clinical Cytopathology. Sponsored by the Johns Hoskins University School of Medicine. *February through April 1987, Home Study Course A* is provided each registrant for personal reading and microscopic study at their own laboratory in preparation for Course B; and *April 27 to May 8, 1987 Course B* is a concentrated lecture series, laboratory studies and clinical experience at the Johns Hopkins Medical Institutions, Baltimore, Maryland. 152 AMA Category I hours — must take both courses to receive credit. For more information contact: John K. Frost, M.D., 604 Pathology Building, The Johns Hopkins Hospital, Baltimore, Maryland, 21205; (301) 955-3522.

March 1-7, 1987

Internal Medicine Symposium. Sponsored by the University of Kansas Medical Center. Cancun, Mexico. 10 Category I credit hours. For further information contact: Eileen Buttron, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103; (913) 588-4494.

March 3-13, 1987

Hawaii 87: Critical Issues in Primary Care. Sponsored by the Pacific Institute of Continuing Medical Education and the Hawaii Medical Association. Waiohai Hotel, Poipu Beach, Kauai, Hawaii. 20 Category I credit hours. For more information contact: Ms. Valeria Murray, The Pacific Institute of Continuing Medical Educa-

tion, Post Office Box 1059, Koloa, Hawaii 96756; (808) 742-7471.

March 8-13, 1987

Annual Meeting of the United States-Canadian Division of the International Academy of Pathology. Palmer House, Chicago, Illinois. Scientific papers, poster sessions, specialty conferences, 44 short courses, 2 special courses and a long course will be presented. Three Category I credit hours for each course attended. For further information, contact: Dr. Nathan Kaufman, Secretary-Treasurer, United States-Canadian Division of the International Academy of Pathology, Building C, Suite B, 3515 Wheeler Road, Augusta, GA 30909; (404) 733-7550.

March 16-21, 1987

Diagnostic Imaging 1987. Sponsored by the University of California, San Francisco. Waiohai Hotel, Poipu Beach, Kauai, Hawaii. 24 Category I credit hours available for physicians; 24 contact hours for nurses if they attend the entire program; 24 ECE points for technologists. Fee: $495.00 for physicians; $395.00 for residents, fellows, technologists and nurses with letter of verification. For more information contact: Radiology Postgraduate Education, University of California, Third & Parnassus Avenues, Room C324, San Francisco, California 94143; (415) 476-5731.

March 18-21, 1987

Third National Leukemia Society Medical Symposium. Sponsored by the Leukemia Society of America. San Diego, California, Town and Country Hotel. 17 Category I credit hours for physicians; 20.7 contact hours for nurses. For more information, contact: Leukemia Society of America, 733 Third Avenue, New York, New York 10017; (212) 573-8484.

April 22-25, 1987

Symposium on Options in Managing Children with Infections and Sixth Annual Pediatric Infectious Disease Seminar. Sponsored by the University of Texas Health Science Center, Department of Pediatrics. Las Vegas Hilton Hotel, Las Vegas, Nevada. 22 Category I credit hours, 19 PREP credits and 18.75 prescribed hours AAFP. Fee: $300.00 physicians; $225.00 residents, fellows, PA's and PNP's. For more information contact: Marian Troup, Seminar Coordinator, University of Texas Health Science Center, 5323 Harry Hines Blvd., Dallas, TX 75235; (214) 688-3439.

April 22-26, 1987

Comprehensive Review Course in Critical Care Medicine. Sponsored by the Center for Bio-Medical Communication and the George Washington University School of Medicine. Bethesda, Maryland. 31 Category I credit hours. Fee: $550.00 includes tuition, course materials and bibliography. For further information contact: The Center for Bio-Medical Communication, 491 Grand Avenue, Englewood, NJ 07631; (201) 568-9381.

April 25-26, 1987

Transurethral Ureteroscopy: A Seminar and Workshop. La Jolla Marriott, San Diego, California. Sponsored by the University of California, San Diego. 13 Category I credit hours. Fee: $375.00. For more information contact: Office of Continuing Medical Education, M-017 UC San Diego School of Medicine, La Jolla, CA 92093; (619) 534-3940 or (619) 452-3940.



PERSONAL AND NEWS ITEMS

The American Academy of Family Physicians recently named **Dr. Amail Chudy** the Family Doctor of the Year for 1986-87. In a news release, the academy said, "In this age of medical specialties and sub-specialties, Dr. Chudy's approach to family practice, like that of the familiar country doctor—but with today's training—is refreshing." Chudy has practiced more than 30 years.

Dr. David M. Yocum was recently appointed to the Union Medical Center Board of Governors by Union County Judge Mike Dumas. Yocum, an El Dorado native, is a general and thoracic surgeon. He was associated with the surgical clinic in El Dorado until his retirement in 1984.

Dr. Thomas B. DeClerk, a Pocahontas family

practitioner for 37 years, announced his retirement recently. DeClerk is a past president of the Randolph County Medical Society and has served as chief of staff of the Randolph County Medical Center.

A federal grant of up to $71,000 has been approved for the Area Health Education Center of South Arkansas according to **Jacob P. Ellis, M.D.,** the agency's director. The grant is one of three approved for Arkansas by the U. S. Department of Health and Human Services. Ellis said he is in the process of determining if the grant money could be used to develop a health care team teaching program.

The American Academy of Family Physicians recently recognized **Dr. John F. Guenthner** of Mountain Home, for 25 years of continued membership in the AAFP. Also honored was **Dr. George W. Warren** of Smackover. The long-term members were honored at the 38th Annual Convention and Scientific Assembly in Washington.

Dr. Ralph Maxwell, a Monticello general practitioner, was appointed to a seven year term on the board of directors of the Drew Memorial Hospital by the Drew County Quorum Court. Maxwell is the first member of the Drew Memorial Medical staff to be appointed to the hospital's board of directors.

At a recent meeting of the American Academy of Pediatrics executive board, **D. R. Vyas, M.D.,** an El Dorado physician, was elected to a fellowship. To qualify as a fellow of the academy, a pediatrician must have been certified as a fully qualified specialist in the field of child health. Certification requires five years of postmedical education.

At the annual business meeting of the Federation of State Medical Boards, **Dr. Joe Verser,** was recognized for his forty years of service on the Arkansas State Medical Board. Verser became secretary of the Medical Board in 1949 and is a past president of the Arkansas Medical Society, having served in 1963. A plaque was awarded to Dr. Verser during the Federation annual meeting to enable national cognizance of his achievements.

James L. Maupin, M.D., Executive Vice-President of Medical Affairs at the Arkansas Foundation for Medical Care, Fort Smith, served recently as a member of the faculty of the American Board of Quality Assurance and Utilization Review Physicians Review Course in San Diego, California.



NEW MEMBERS

DR. JERRY ARTHUR JONES

Faulkner County's new member is Dr. Jerry Arthur Jones, an Obstetrician and Gynecologist. Dr. Jones received his pre-medical education from Henderson State University, receiving his B.S. degree in Biology in 1975. His medical education and degree are from the University of Arkansas for Medical Sciences. His residency and internship were in obstetrics and gynecology through the Methodist Hospitals of Dallas program.

Dr. Jones is board eligible in obstetrics and gynecology and he began his private practice this year. His office is located at 2519 College, Conway.

DR. RUPERT COTHAM ANDERSON

Dr. Rupert Cotham Anderson is Hempstead County's new member. Dr. Anderson received his pre-medical from Henderson State University and the University of Arkansas. His medical degree, received in 1972, is from the University of Arkansas for Medical Sciences.

Dr. Anderson's internship and residencies were in Surgery at the Medical Center Hospital, part of the University of Texas at San Antonio medical program. Dr. Anderson is board certified and is a member of the American College of Surgeons.

He has practiced in Oklahoma, Texas and most recently in Hope, Arkansas.

Dr. Anderson specializes in General Surgery and his office address is 110 East 20th Street, Hope.

There are six new members in Pulaski county:

DR. PAMELA SHARON BROWN

Dr. Pamela Sharon Brown is specializing in Physical Medicine and Rehabilitation. Her B.S. degree is from Ohio State University, which she received in 1979. Dr. Brown's medical degree is from Ohio State University's College of Medicine.

Dr. Brown's internship and residency were in Physical Medicine and Rehabilitation and were taken at the Medical Center Hospital which is part of the University of Texas at San Antonio program.

Dr. Brown's office is located at the Arkansas Rehabilitation Institute, 9601 Interstate 630, Little Rock.

DR. MARLON JOSEPH DOUCET

Dr. Marlon Joseph Doucet is a Family Practitioner. Dr. Doucet, a Church Point, Louisiana native, attended and was graduated from the University of Southwestern Louisiana in 1979. He attended Tulane University, receiving his medical degree in 1983.

Dr. Doucet's internship and residencies were in Family Practice at the Louisiana State University Hospital in Shreveport. He is a member of the Shreveport Medical Society.

Dr. Doucet is board certified in Family Practice and will be practicing at the Redfield Clinic, Redfield.

DR. WILLIAM CRAIG FLOWERS

Dr. William Craig Flowers is a Pediatrician practicing at 4215 Hermitage Road, Little Rock. Dr. Flowers graduated with a biology degree from Millsap College in Jackson, Mississippi in 1978. His medical degree, received in 1983, is from the University of Mississippi.

Dr. Flowers' internship and residency were in Pediatrics and were taken at the University of Arkansas for Medical Sciences program at the Arkansas Children's Hospital. Dr. Flowers is board eligible.

DR. DAVID LEE HARSHFIELD, JR.

Dr. David Lee Harshfield, Jr. is a Radiologist and will be practicing at the University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock.

Dr. Harshfield, a Little Rock native, attended and was graduated from Hendrix College, receiving his biology degree in 1975. He then attended the University of Arkansas for Medical Sciences, receiving his medical degree in 1981. Dr. Harshfield's internship and residency were in Diagnostic Radiology and were spent at the University of Arkansas for Medical Sciences. Dr. Harshfield is board certified in Radiology.

DR. ROBERT ROSS RITCHIE

Dr. Robert Ross Ritchie, a Little Rock native, is a Family Practitioner. He received his degree from Tulane University in 1976 and his medical degree from the University of Arkansas for Medical Sciences in 1983. His internship and residency were taken in Fort Worth, Texas. They were in Family Practice and were part of the University of Texas Southwestern Medical School program. He was a member of the Tarrant County Medical Society.

Dr. Ritchie is board eligible in Family Practice and will be practicing at 1401 North Main Street, North Little Rock.

DR. ELAINE I. WILSON

Dr. Elaine I. Wilson is a Neurologist and will be practicing with the Neurology Associates, 8924 Kanis Road, Little Rock. Dr. Wilson received her B.S.N. degree from the University of Arkansas for Medical Sciences in 1971. She continued her medical education, receiving her medical degree from the University of Arkansas for Medical Sciences in 1981.

Dr. Wilson's internship was in Internal Medicine and her residency was in Neurology, both of which were spent at the University of Arkansas for Medical Sciences.

Dr. Wilson is board eligible in Psychiatry and Neurology.

DR. BRIAN F. SUDDERTH

Dr. Sudderth is Saline County's new member. Dr. Sudderth, an Arrington, Great Britain native, is a 1977 graduate of Southwestern at Memphis (Rhodes College) and a 1982 graduate of the University of Arkansas for Medical Sciences.

Dr. Sudderth's internship and residency were in Family Practice with the Mountain Area Health Education Center Program at the Memorial Mission Hospital in Asheville, North Carolina.

Dr. Sudderth is board certified in Family Prac-

tice and has been in practice for one year. His office is located at 210 North Reynolds Road, Bryant.

RESIDENT MEMBERS

DR. JAMES C. CREWS

Dr. Crews is a Shreveport, Louisiana native. He is a 1984 graduate of the Louisiana State University College of Medicine.

He is a resident in Anesthesiology at the University of Arkansas for Medical Sciences and a member of the Pulaski County Medical Society.

DR. DAVID READ HERRMANN

Dr. Herrmann is an Internal Medicine resident at the University of Arkansas for Medical Sciences.

Dr. Herrmann, a Freeport, Texas native, graduated from the University of Texas Medical Branch at Galveston in 1984.

OBITUARY

DR. JABEZ F. JACKSON, SR.

Dr. Jabez Fenton Jackson, Sr., aged 80, of Newport, died October 3, 1986.

Dr. Jackson was a founder of Harris Hospital at Newport and a former director of Arkansas Blue Cross and Blue Shield. He was an Emeritus member of the Arkansas Medical Society and the Jackson County Medical Society. He retired from private practice in 1973.

Dr. Jackson was born on June 8, 1921. He received his bachelor's degree in 1930 from Arkansas College at Batesville and his medical degree in 1935 from Vanderbilt University. He was a medical officer in the Army during World War II, a veteran of the Korean war and a recipient of the Purple Heart, the American Defense Medal and the European Theater Medal with three bronze service stars. Dr. Jackson was a past president of the Newport Rotary Club and a Paul Harris Fellow as well as being the former city director of Newport.

Survivors are his widow, Narcissa Wilmans Jackson; two sons, Dr. Jabez F. Jackson, Jr., of Newport and Dorsey W. Jackson of Little Rock; a daughter, Mary Jackson Elrod of Atlanta, Georgia; a sister, Mary Saunders of Newport and eight grandchildren.

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THE JOURNAL OF THE Arkansas MEDICAL SOCIETY

Vol. 83 No. 7

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IN THIS ISSUE

Follicular Thyroid Carcinoma with Pulmonary Metastasis 271
Relevance of Rehabilitation in Primary Care 280

PUBLIC HEALTH AT A GLANCE

The Controlled Substances Act and You 291

PEDIATRIC UPDATE

Appendicoliths and Acute Appendicitis in Children 293

Is your malpractice insurance geared to the past, instead of the future?

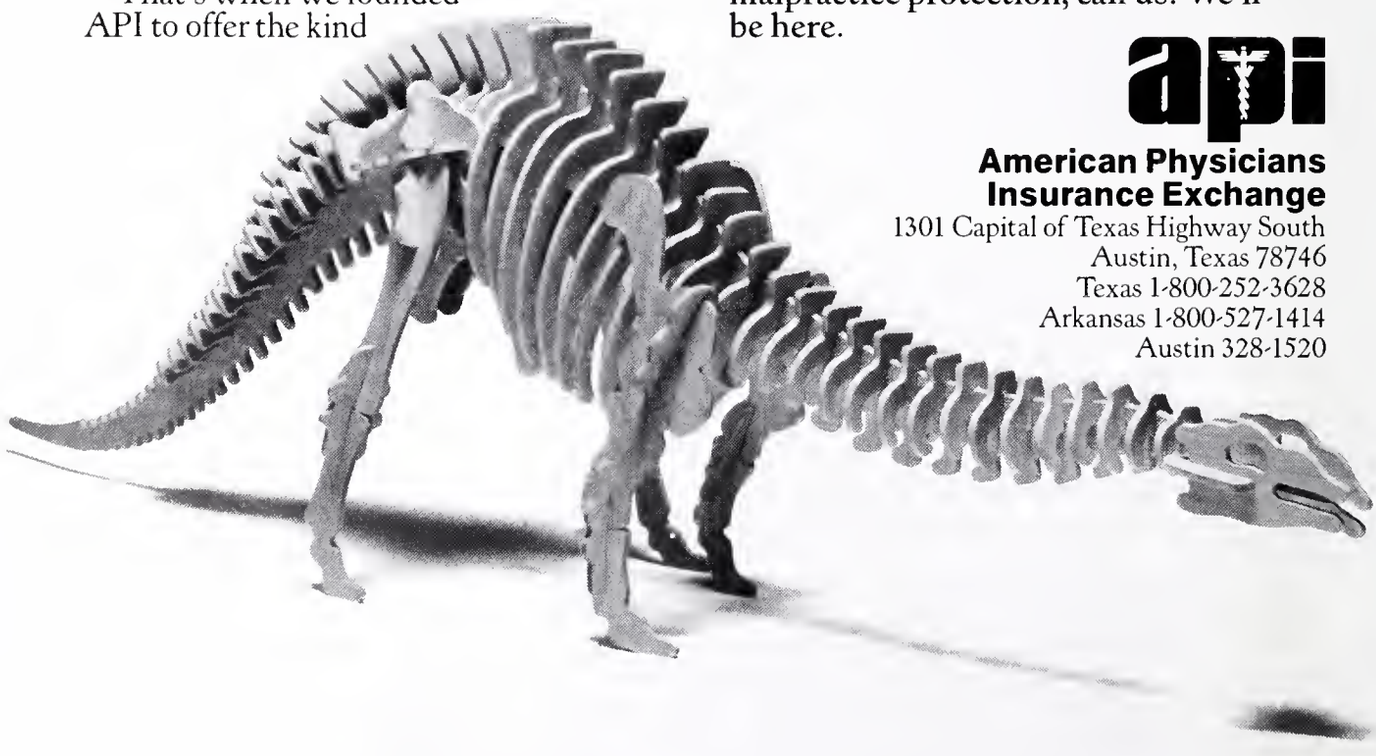
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NEWS — Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

SCIENTIFIC ARTICLES

Follicular Thyroid Carcinoma with Pulmonary Metastasis 271
Don H. Mangum, B. S., Kathy L. Bussell, M.D., Fred Y. Murphy, M.D. Sally A. Nicks, M.D., and David L. Vesely, M.D., Ph.D.

The Revelance of Rehabilitation in in Primary Care 280
F. Patrick Mahoney, M.D., M.P.H.

FEATURES

OB/GYN Update: "Maternal and Fetal Response to the Intrapartum Use of Butorphanol" 286
Richard A. Wyatt, M.D., Frederick R. Jelovsek, M.D., and Frank C. Miller, M.D.

ECG of the Month 290

Public Health at a Glance: "The Controlled Substances Act and You" 291
Don Phillips, P.D., M.P.A.

Pediatric Update: "Appendicoliths and Acute Appendicitis in Children" 293
D. S. Bachman, M.D., and R. Kingsley Bost, M.D.

Cancer Management Problems: "Metastic Colon Carcinoma to the Liver" 295
Bill L. Tranum, M.D., W. Ducote Haynes, M.D., Robert W. Laakman, M.D., and Don I. Scott, M.D.

The Exec's Corner 296

From Other Years: "Calvin J. Dillaha, M.D." 298
G. Thomas Jansen, M.D.

Medicine in the News 299

Keeping Up 300

Things to Come 302

Resident Physician News 304

New Members 305

Obituary 307

Resolution 307

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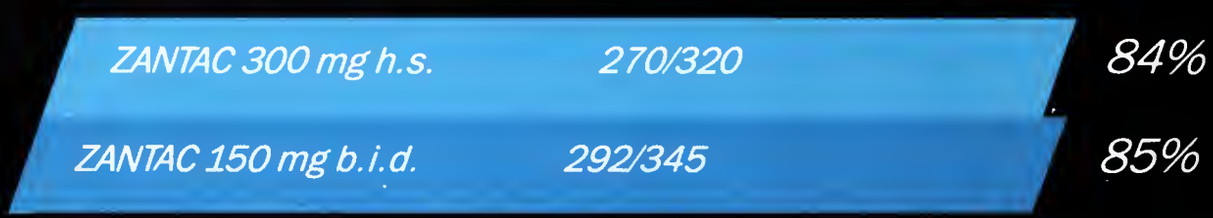
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with once-a-night h.s. therapy for active duodenal ulcers

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Heals active duodenal ulcers after 4 weeks in most patients*[1]



In well-controlled, double-blind, multicenter trials, ZANTAC 300 mg h.s. healed active duodenal ulcers in 84% of patients after 4 weeks. After 8 weeks, healing rates may be higher with ZANTAC 150 mg b.i.d. (92%) than with ZANTAC 300 mg h.s. (87%).

Relieves pain and other symptoms as effectively as ZANTAC 150 mg b.i.d.[1]

Zantac® 300

ranitidine HCl/Glaxo 300 mg tablets

Once-daily dosing may enhance compliance in patients for whom dosing convenience is important

Side-effects profile comparable to ZANTAC 150 mg b.i.d.[1-3]

Headache—sometimes severe—has been reported. Rare effects on the CNS, cardiovascular, GI, hepatic, and integumental systems have been observed, as well as rare cases of hypersensitivity reactions. See ADVERSE REACTIONS section of Brief Summary of Product Information before prescribing.

No significant interference with the hepatic cytochrome P-450 enzyme system at recommended doses

ZANTAC 300 mg h.s. had no significant drug interactions with theophylline or warfarin. The bioavailability of certain medications whose absorption is dependent on a low gastric pH may be altered when ZANTAC or other medications which decrease gastric acidity are administered.



s not known exactly how much acid inhibition eeded to heal ulcers.

Glaxo / ROCHE

See next page for references and Brief Summary of Product Information.

IN ACTIVE DUODENAL ULCERS

Once-a-night h.s. therapy controls acid rain

Zantac® 300
ranitidine HCl/Glaxo 300 mg tablets

References: **1.** Data available on request, Glaxo Inc. **2.** Ireland A, Colin-Jones DG, Gear P, et al: Ranitidine 150 mg twice daily vs 300 mg nightly in treatment of duodenal ulcers. *Lancet* 1984;2:274-275. **3.** Colin-Jones DG, Ireland A, Gear P, et al. Reducing overnight secretion of acid to heal duodenal ulcers. *Am J Med* 1984; 77 (suppl 5B) 116-122.

ZANTAC® 150 Tablets
(ranitidine hydrochloride)
ZANTAC® 300 Tablets
(ranitidine hydrochloride)

BRIEF SUMMARY OF PRODUCT INFORMATION

See complete product information before prescribing. The following is a brief summary.

INDICATIONS AND USAGE: ZANTAC® is indicated in:
1. Short-term treatment of **active duodenal ulcer.** Most patients heal within four weeks.
2. **Maintenance therapy** for duodenal ulcer patients at reduced dosage after healing of acute ulcers.
3. The treatment of **pathological hypersecretory conditions** (eg, Zollinger-Ellison syndrome and systemic mastocytosis).
4. Short-term treatment of **active, benign gastric ulcer.** Most patients heal within six weeks and the usefulness of further treatment has not been demonstrated.
5. Treatment of **gastroesophageal reflux disease (GERD).** Symptomatic relief commonly occurs within one or two weeks after starting therapy. Therapy for longer than six weeks has not been studied.

In active duodenal ulcer, active, benign gastric ulcer; hypersecretory states; and GERD, concomitant antacids should be given as needed for relief of pain.

CONTRAINDICATIONS: ZANTAC® is contraindicated for patients known to have hypersensitivity to the drug.

PRECAUTIONS: General: 1. Symptomatic response to ZANTAC® therapy does not preclude the presence of gastric malignancy. 2. Since ZANTAC is excreted primarily by the kidney, dosage should be adjusted in patients with impaired renal function. Caution should be observed in patients with hepatic dysfunction since ZANTAC is metabolized in the liver.

Laboratory Tests: False-positive tests for urine protein with Multistix® may occur during ZANTAC therapy, and therefore testing with sulfosalicylic acid is recommended.

Drug Interactions: Although ZANTAC has been reported to bind weakly to cytochrome P-450 in vitro, recommended doses of the drug do not inhibit the action of the cytochrome P-450-linked oxygenase enzymes in the liver. However, there have been isolated reports of drug interactions which suggest that ZANTAC may affect the bioavailability of certain drugs by some mechanism as yet unidentified (eg, a pH-dependent effect on absorption or a change in volume of distribution).

Carcinogenesis, Mutagenesis, Impairment of Fertility: There was no indication of tumorigenic or carcinogenic effects in lifespan studies in mice and rats at doses up to 2,000 mg/kg/day.

Ranitidine was not mutagenic in standard bacterial tests (*Salmonella, E coli*) for mutagenicity at concentrations up to the maximum recommended for these assays.

In a dominant lethal assay, a single oral dose of 1,000 mg/kg to male rats was without effect on the outcome of two matings per week for the next nine weeks.

Pregnancy: ***Teratogenic Effects: Pregnancy Category B:*** Reproduction studies have been performed in rats and rabbits at doses up to 160 times the human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ZANTAC. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: ZANTAC is secreted in human milk. Caution should be exercised when ZANTAC is administered to a nursing mother.

Pediatric Use: Safety and effectiveness in children have not been established.

Use in Elderly Patients: Ulcer healing rates in elderly patients (65 to 82 years of age) were no different from those in younger age groups. The incidence rates for adverse events and laboratory abnormalities were also not different from those seen in other age groups.

ADVERSE REACTIONS: The following have been reported as in clinical trials or in the routine management of patients t with oral ZANTAC®. The relationship to ZANTAC therapy ha unclear in many cases. Headache, sometimes severe, seem related to ZANTAC administration.

Central Nervous System: Rarely, malaise, dizziness, somno insomnia, and vertigo. Rare cases of reversible mental conf agitation, depression, and hallucinations have been reporte dominantly in severely ill elderly patients.

Cardiovascular: Rare reports of tachycardia, bradycardia, ar mature ventricular beats.

Gastrointestinal: Constipation, diarrhea, nausea/vomiting abdominal discomfort/pain.

Hepatic: In normal volunteers, SGPT values were increase least twice the pretreatment levels in 6 of 12 subjects rec 100 mg qid IV for seven days, and in 4 of 24 subjects rec 50 mg qid IV for five days. With oral administration there been occasional reports of reversible hepatitis, hepatocellu hepatocanalicular or mixed, with or without jaundice.

Musculoskeletal: Rare reports of arthralgias.

Hematologic: Rare reports of reversible leukopenia, granu topenia, thrombocytopenia, and pancytopenia.

Endocrine: Controlled studies in animals and man have sho stimulation of any pituitary hormone by ZANTAC and no antia genic activity, and cimetidine-induced gynecomastia and tence in hypersecretory patients have resolved when ZANTA been substituted. However, occasional cases of gynecom impotence, and loss of libido have been reported in male pa receiving ZANTAC, but the incidence did not differ from that general population.

Integumental: Rash, including rare cases suggestive of mil thema multiforme, and, rarely, alopecia.

Other: Rare cases of hypersensitivity reactions (eg, bronchosp fever, rash, eosinophilia) and small increases in serum creat

DOSAGE AND ADMINISTRATION: Active Duodenal Ulcer: The cu recommended adult oral dosage is 150 mg twice daily. An nate dosage of 300 mg once daily at bedtime can be use patients in whom dosing convenience is important. The a tages of one treatment regimen compared to the other in a pa lar patient population have yet to be demonstrated.

Maintenance Therapy: The current recommended adult oral d is 150 mg at bedtime.

Pathological Hypersecretory Conditions (such as Zollinger-E Syndrome): The current recommended adult oral dosage is 15 twice a day. In some patients it may be necessary to admi ZANTAC® 150-mg doses more frequently. Doses should be adj to individual patient needs, and should continue as long as cally indicated. Doses up to 6 g/day have been employ patients with severe disease.

Benign Gastric Ulcer: The current recommended adult oral d is 150 mg twice a day.

GERD: The current recommended adult oral dosage is 15 twice a day.

See full prescribing information for dosage adjustmen patients with impaired renal function.

HOW SUPPLIED: ZANTAC® 300 Tablets (ranitidine hydrochl equivalent to 300 mg of ranitidine) are yellow, capsule-sh tablets embossed with "ZANTAC 300" on one side and "Glax the other. They are available in bottles of 30 (NDC 0173-0393 and unit dose packs of 100 tablets (NDC 0173-0393-47).

ZANTAC® 150 Tablets (ranitidine hydrochloride equivale 150 mg of ranitidine) are white tablets embossed with "ZAN 150" on one side and "Glaxo" on the other. They are availab bottles of 60 tablets (NDC 0173-0344-42) and unit dose pac 100 tablets (NDC 0173-0344-47).

Store between 15° and 30°C (59° and 86°F) in a dry place. Pr from light. Replace cap securely after each opening.

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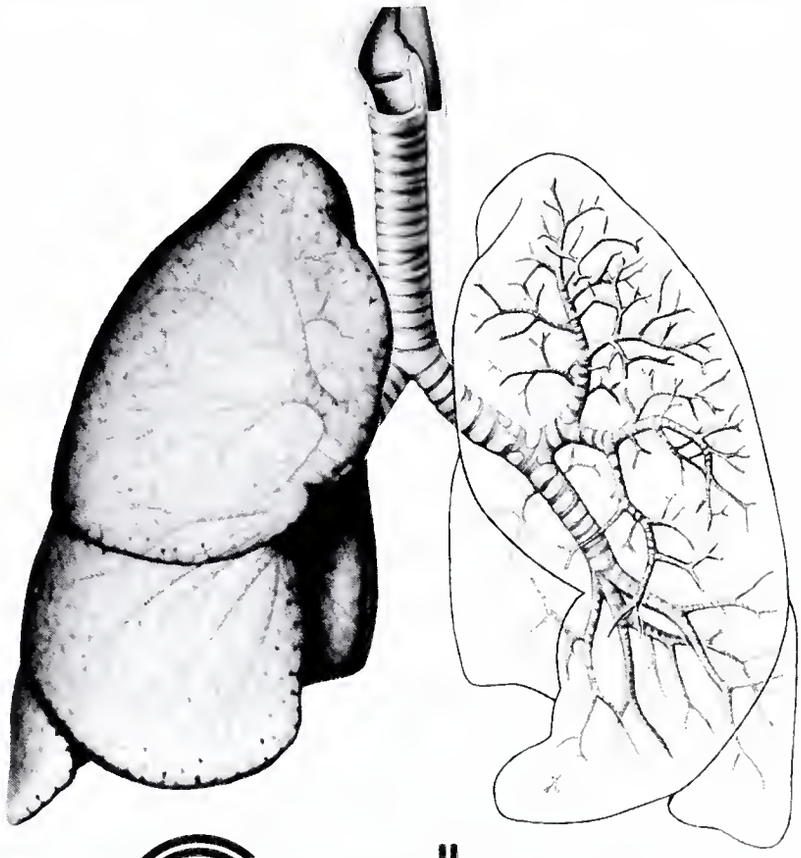
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250-mg Pulvules® t.i.d. offers effectiveness against the major causes of bacterial bronchitis

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(ampicillin-susceptible) (ampicillin-resistant)

Note: Ceclor® is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

Ceclor® (cefaclor)

Summary. Consult the package literature for prescribing information.

Indications: Lower respiratory infections, including pneumonia, caused by susceptible strains of *Streptococcus pneumoniae, Haemophilus influenzae,* and *S. pyogenes* (group A beta-hemolytic streptococci).

Contraindications: Known allergy to cephalosporins.

Warnings: CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:

- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- In renal impairment, safe dosage of Ceclor may be lower than that usually recommended. Ceclor should be administered with caution in such patients.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:

- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, erythema multiforme, serum-sickness-like reactions): 1.5%; usually subside within a few days after cessation of therapy. These reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%.

Abnormalities in laboratory results of uncertain etiology

- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children)
- Abnormal urinalysis; elevations in BUN or serum creatinine
- Positive direct Coombs' test
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (glucose enzymatic test strip, Lilly)

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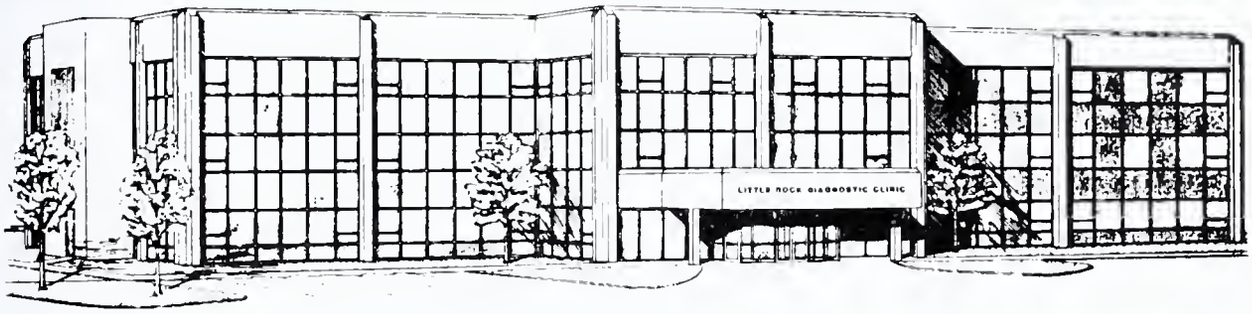
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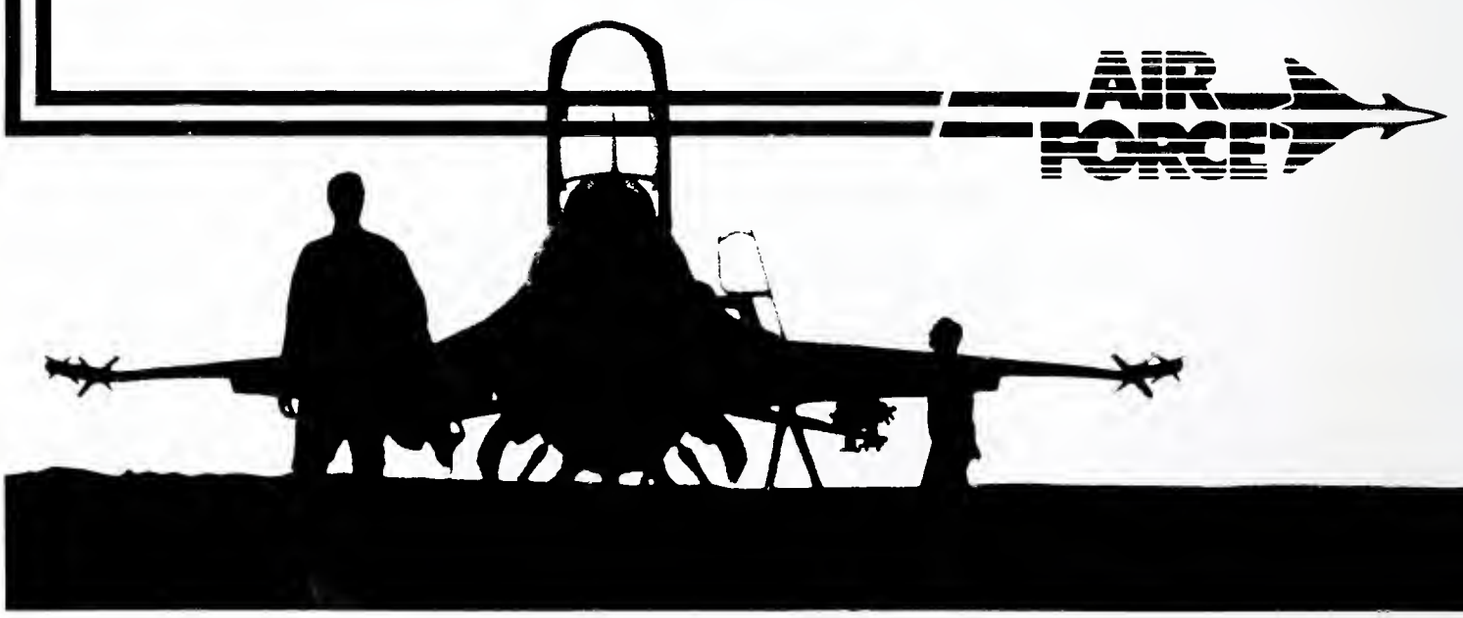
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Follicular Thyroid Carcinoma with Pulmonary Metastasis

Don H. Mangum, B.S., Kathy L. Bussell, M.D., Fred Y. Murphy, M.D., Sally A. Nicks, M.D., and David L. Vesely, M.D., Ph.D.*

INTRODUCTION

In the United States more than 10,000 new cases of thyroid cancer are diagnosed each year and approximately 1,050 persons die each year of thyroid carcinoma.[1] Papillary thyroid carcinoma is the most common form and is usually a slow growing tumor that tends to be locally invasive and spreads via the lymphatics. For purposes of determining the incidence of thyroid cancer, mixed papillary and follicular carcinomas (even if 90 percent are follicular) are classified as papillary.[2] Follicular carcinomas are more lethal thyroid carcinomas which spread by blood vessel invasion.[3] Follicular carcinomas comprise 15 to 22 percent of all cancers of the thyroid.[3] A five year followup of a patient with follicular carcinoma with pulmonary metastasis, which have dramatically increased in number in the past year, demonstrates several important distinctive features in the diagnosis, treatment, and followup of patients with follicular carcinoma of the thyroid.

CASE REPORT

A 68-year-old caucasian lady with a history of a thyroid goiter since age 28 noticed a rapid enlargement five years ago (7/81) of the left side of her thyroid gland over the preceding six months. Associated with the rapid enlargement of the left side of her thyroid gland was a history of easy fatigability. She denied any constipation, change in voice or texture of her skin. Likewise, there was no hair loss or diarrhea associated with this rapid enlargement of her thyroid gland. The patient denied any head or neck irradiation.

Past history revealed a cerebrovascular accident at age 60 with residual left sided paralysis of her left arm and left leg. At age 57 she was noted to have tachycardia-bradycardia syndrome. She has had a permanent cardiac pacemaker since that time. A chest X-ray done at another hospital six months before the patient was seen for her enlarging thyroid gland revealed two pulmonary nodules in her left chest. The etiology of these nodules had not been determined when she was first seen.

Family history indicated that one sister, aged 60, had a subtotal thyroidectomy for a multinodular goiter 25 years previously. There was no other family history of thyroid disease.

Physical examination revealed a blood pressure of 150/90 mmHg, regular pulse with rate of 64 beats per minute, temperature was 37° C, and respirations were 12 per minute. Her weight was 120 lbs. at that time. Her thyroid examination was remarkable on visual inspection for a very large goiter with the left lobe being larger than the right. A 5 by 8 cm firm mass was palpated in the left lobe of the thyroid and multiple smaller nodules were palpated in the right lobe. A 2 by 2 cm freely movable, firm lymph node was felt to the right of the thyroid. Her lungs were clear to auscultation and percussion. Cardiac exam revealed a grade II/VI systolic ejection murmur at the left sternal border in the 5th intercostal space that radiated to the axilla. The abdominal examination was remarkable for a liver span of 15 cm by percussion with the tip being soft and nontender. Her left arm and left leg had evidence of disuse muscle atrophy and on walking the patient was noted to drag her left leg slightly.

Laboratory evalution, when seen for her rapidly enlarging thyroid, revealed normal thyroid functions. Routine laboratory work was all within normal limits. A chest X-ray demonstrated a deviated trachea to the right with two nodules in

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the left lung and one nodule in the right lung. The nodule in the right lung had not been seen on chest X-ray six months previously. (Figure 1, left panel.) The deviation of the trachea by this mass can be seen best in a computed tomogram (CT) of the neck in Figure 2 (left panel). No invasion of the trachea was seen on this CT scan. Computed tomography of the neck also demonstrated a massive thyroid bilaterally which was more prominent on the left with dystropic calcification within the left lobe. (Figure 2, right panel.) A thyroid scan revealed irregular uptake in the right lobe with no uptake at all in the left lobe, i.e., a large cold nodule.

Hospital Course:

In July of 1981, the patient had a near total thyroidectomy with a 201 gram thyroid being submitted to pathology. (A normal thyroid gland is approximately 20 grams.) At surgery some of the thyroid was adherent to the trachea and this was left in the neck, as was a small portion of the right inferior lobe which had a parathyroid gland adherent to it. On pathological examination a follicular carcinoma with vascular and capsular invasion made up half of the left lobe while the right lobe of the thyroid contained numerous cystic cavities, some of which contained hemorrhagic fluid. One paratracheal lymph node was removed which did not contain any tumor.

One month after the thyroid surgery, the patient had a total body scan with I^{131} which revealed radioactive iodine uptake in the nodules in her chest as well as in three areas in her neck. There was also small amount of uptake over her right iliac bone. She was treated immediately after the scan with 150 millicuries of I^{131}. The patient had been off thyroid replacement prior to her total body scan and her TSH was 80 uIU/ml immediately before the scan. (Normal: 0-7 uIU/ml.) One week after the radioactive iodine treatment dose she was begun on Synthroid® 200 mcg/day.

Long-term Followup:

A repeat total body scan one year later with 2 mCi of I^{131} did not demonstrate any uptake in the lung nodules, but a repeat I^{131} total body scan with 10 mCi of I^{131} did reveal uptake in the three nodules in the chest and uptake in the thyroid bed (neck). She was then treated with another 150 mCi of I^{131}. Her TSH was 54 uIU/ml prior to this treatment.

At followup one year later (1983), there was no increase in the number of nodules on chest X-ray and the chest X-ray was felt to be unchanged. She then had another total body scan with 2 mCi of I^{131} which showed no uptake in the neck or the pulmonary nodules. Her TSH at the time of the scan was 6.8 uIU/ml. She was not treated with

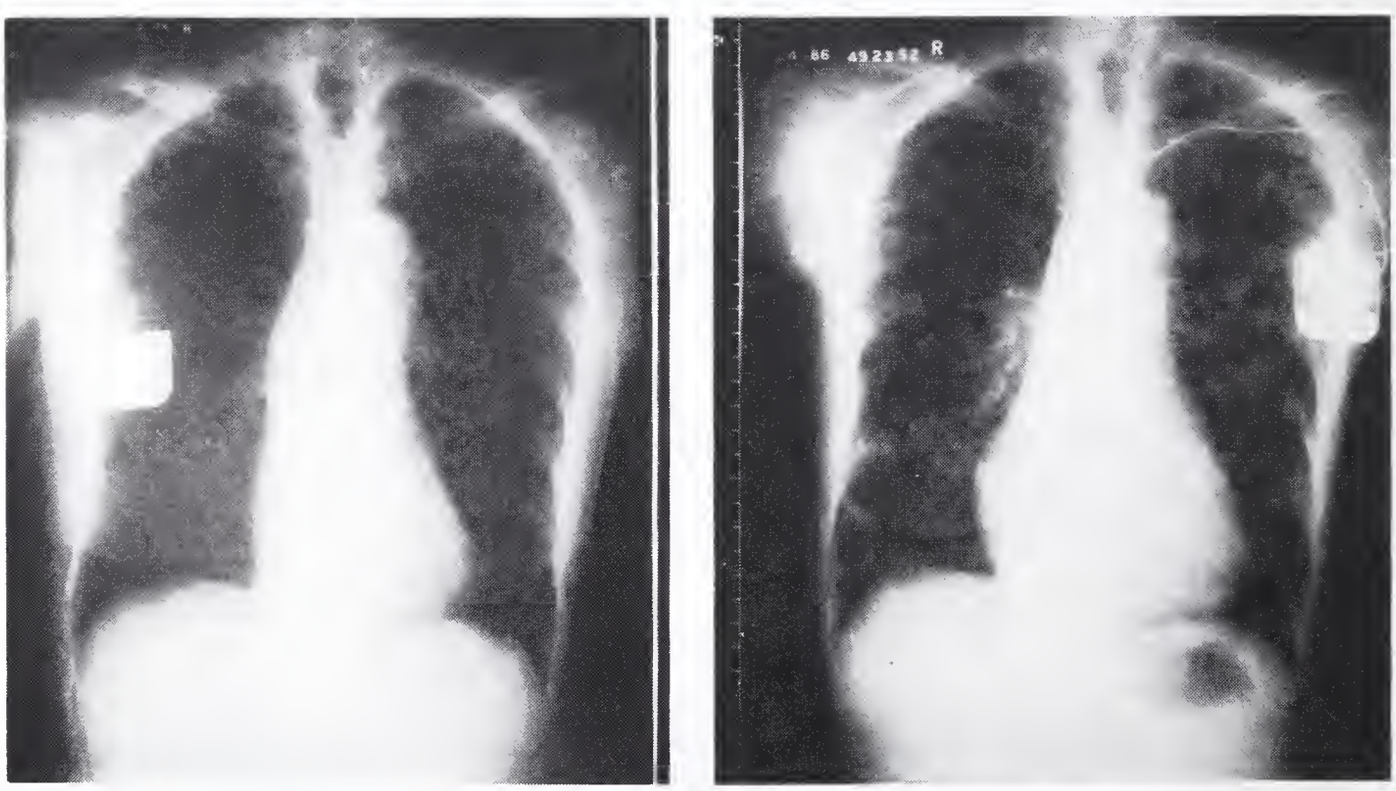


Figure 1.

Left panel. Chest X-ray in 1981. Note two nodules in left lower chest. Right panel. Chest X-ray in 1986. Multiple nodules now present in both right and left chest.

I^{131} after this scan and was placed back on Synthroid®. With respect to her Synthroid® dose it is important to note that in an attempt to decrease her TSH level to zero, her Synthroid® during this year was increased to 300 mcg/day which resulted in the patient becoming hyperthyroid clinically and having a T_4 of 17.3 ug/dl. (Normal: 5.9-11.8 ug T_4/dl.)

The patient was then followed for the next three years by her local physician without total body scans until she presented to the university hospital this year with a 15 lb. weight loss and dyspnea on the slightest exertion. Her chest X-ray revealed a marked increase in the number of pulmonary nodules (Figure 1, right panel.) Physical examination revealed a new rock hard 3 × 2 cm node in her left neck that was freely movable. This node was removed and contained follicular thyroid carcinoma. The patient was given intramuscular TSH for several days before a repeat I^{123} total body scan. The repeat total body I^{123} scan indicated marked uptake in her chest nodules (Figure 3) and she was treated with 150 mCi of I^{131}.

DISCUSSION

Diagnosis of Thyroid Cancer: History

A history of a rapidly enlarging thyroid mass is an important clue to a possible thyroid cancer. This rapid enlargement usually is not painful, but pain may be associated with it and may radiate to the ear. In the differential diagnosis of a painful rapid enlargement of the thyroid gland, bleeding into a cyst in the thyroid gland should also be considered. This cystic area will usually be noted by the patient to be soft and fluctuant as opposed to a hard asymmetric area for a follicular, papillary or anaplastic thyroid tumors. A history of external radiation to the face for acne, to the neck for enlarged tonsils or lymph nodes in infancy, childhood or young adulthood is important and is associated with an increase incidence of follicular, and especially of papillary, carcinoma of the thyroid twenty to thirty years later.[4,5] Lymph node enlargement in the neck is occasionally noticed by the patient long before a primary growth is detected in the thyroid. In the patient's history, the patient's age and sex are important. The presence of a single nodule in a male increases the possibility of malignancy. Although statistically there are fewer thyroid nodules in male patients than female patients, the incidence of malignancy is higher in males either with or without external radiation. The majority of follicular carcinomas

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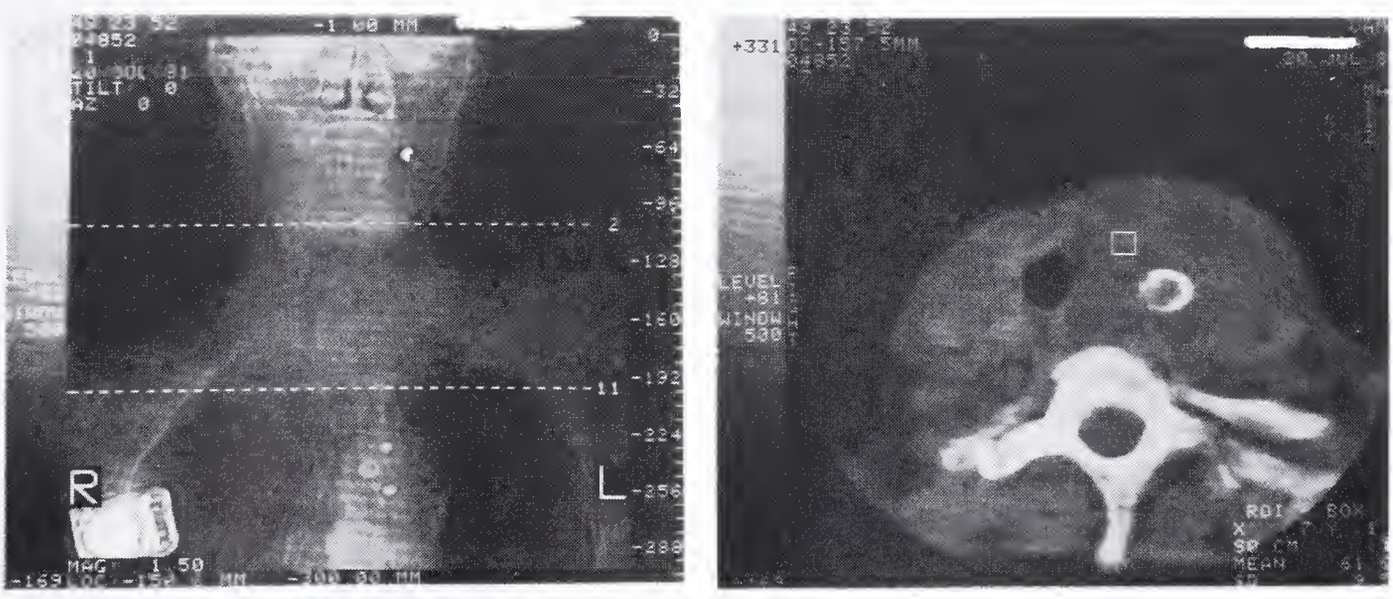


Figure 2.

Computed tomograph of neck. Left panel. Noted deviation of trachea secondary to enlarged thyroid. Right panel. Enlarged thyroid marked with □. The whitish area in the middle of the thyroid is dystrophic calcification.

present between the ages of 40 to 55 years. Thyroid nodules are unusual in childhood and consequently such a nodule in a patient less than 20 years old is malignant until proven otherwise. In children less than 15 years of age, the incidence of carcinoma is 45 to 75 percent among those with solitary nodules.[6] Similarly, a solitary nodule in a patient more than 65 years of age, has been a carcinoma in 45 percent of some series.[7] A history of hoarseness indicates a need to do indirect laryngoscopy to rule out thyroid tumor invasion of the recurrent laryngeal nerve.



Figure 3.

Total body I^{131} scan in 1986. Marked uptake of I^{131} in the lung and different areas of bone can be seen on this total body scan.

Physical Examination:

The majority of thyroid nodules are benign and, thus, the diagnosis of the few malignant nodules can be difficult. An asymmetric, enlarged hard lobe of one side of the thyroid on physical examination points to a possible follicular, papillary or anaplastic thyroid carcinoma. A few cancers, usually papillary, may feel soft as a result of cystic degeneration. When the whole thyroid gland is enlarged and hard, one should think of medullary carcinoma of the thyroid, although "woody" (Riedel's) thyroiditis is also in the differential when the whole thyroid gland is enlarged and "hard." When enlarged lymph nodes are found in the neck in association with a nodule or a diffusely enlarged thyroid, the diagnosis of the malignancy should be considered. Follicular thyroid carcinomas have a very low incidence (5%) of cervical lymph node metastases,[8] while papillary thyroid carcinomas have a high lymph node invasion as they spread via the lymphatics.

Laboratory Evaluation:

The majority of patients with follicular thyroid carcinoma and the other types of thyroid carcinoma are euthryoid: serum thyroxine (T_4), free T_4, triiodothyroxine (T_3), and serum thyroid stimulating hormone (TSH) concentrations are normal. On a routine chest X-ray, calcification in the thyroid area should arouse a suspicion of cancer. Calcification was present in the present patient with follicular carcinoma. Punctate foci of calcification, however, usually suggests papillary rather than follicular carcinoma or even necrosis and fibrosis in a benign goiter.

Thyroid Scanning:

Since thyroid carcinomas are generally nonfunctioning, they usually appear as cold nodules on the thyroid scan. The majority of benign adenomas, nodules, and cysts, however, also appear as hypofunctioning, so that a cold nodule by scan is statistically more likely to be benign than malignant with only 6 to 20 percent of cold nodules being malignant.[9,10] A well differentiated follicular carcinoma may, on occasion, take up a modest amount of radioactive iodine and appear "warm" but not hot on the scan. A hot nodule can generally be counted on to be benign

with respect to cancer. Thus, the thyroid scan can help point to a thyroid cancer, but cannot definitively rule in or out a thyroid cancer.

Thyroid Echography:

A echogram (sonogram) of the thyroid can usually differentiate between a solid and a cystic mass, but does not rule out the possibility of malignancy in the cystic lining.[11] Echography does not distinguish between common benign solid lesions and the more rare malignant nodules, in this regard, its usefulness in working up a possible thyroid cancer is limited.

Computed Tomography (CT):

A computed tomogram of the neck was utilized in the present case to help determine whether the mass in the left lobe of the thyroid was invading adjacent tissue. Because of the cost of this procedure, we would not recommend it in the routine diagnostic workup of a patient with thyroid cancer. Once a high probability of cancer is present and the surgeon would like the neck architecture defined, as in the present case, the CT may be useful in this regard. Thus, for diagnosis of thyroid carcinomas, the CT is probably not cost-effective, but for guiding the extent of the surgery when it has been decided that surgery is necessary, the CT may be useful preoperatively.

Needle Biopsy:

Since the majority of nodules are benign, routine surgical excision of a nodular goiter for diagnostic purposes is unjustified unless there is overwhelming evidence of malignancy. Needle biopsy provides a simple, safe and reliable alternate in diagnosis and is the approach of choice in many medical centers.[12,13] Reports of surgical implantation of the thyroid carcinoma in the neck are rare after this type of procedure, and have been found only after the use of a cutting type of needle.[13,14] The major drawback to utilizing this technique is having a pathologist who is expert in reading the needle biopsy. In a comparative study of 300 thyroid lesions examined by needle biopsy and by conventional microscopic techniques, Boehme et al. were only able to show a correlation in 50 percent,[15] while at Harvard Medical School where the fine needle biopsy is considered the first diagnostic test of choice, a 90 percent accuracy among the 90 patients has been reported,[13] with malignancy misdiagnosed in the remaining ten percent. With fine needle aspiration biopsy, however, it is extremely difficult for the expert pathologist to differentiate a follicular benign adenoma from a follicular carcinoma.[16,17] In general, fine needle aspiration biopsy appears to be more helpful in diagnosing other thyroid carcinomas.

Treatment of Follicular Thyroid Carcinoma: Surgery

Surgery is the treatment of choice for follicular and the other types of thyroid neoplasms. The amount of thyroid surgery to be done is still an area of controversy in noninvasive or slightly invasive follicular carcinomas. Some surgeons consider a lobectomy appropriate therapy,[18] while others would do a total thyroidectomy.[19] With documented invasion of blood vessels or invasion through the capsule on frozen section, the majority of surgeons would do a total or near-total thyroidectomy.[18,19] When documented metastases are first seen, as in the present patient, a total or near-total thyroidectomy should be done[18] as most follicular thyroid carcinoma metastatic lesions are radiosensitive and can be treated with I^{131} radiotherapy; but this radiotherapy will concentrate in the thyroid that is left behind and, if a large amount of thyroid is left, none of the I^{131} radiotherapy will reach the metastatic lesions. With follicular thyroid carcinomas, radical neck dissection is performed only for palpable lymph node disease since the incidence of lymphatic spread is too small to justify elective radical neck dissection.[18] Thompson, et al.[19] have emphasized that extensions of the follicular carcinoma through the thyroid capsule necessitates a partial neck dissection more often than the presence of cervical lymph node metastases.

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Use of Postoperative I^{131}:

As it is virtually impossible to perform a true total thyroidectomy, residual thyroid tissue will almost always be present in the neck.[20] The question then arises who should receive postoperative I^{131}. Patients with medullary and anaplastic thyroid carcinomas usually do not benefit from postoperative I^{131} therapy since these two cancers do not take up radioiodine very well. Some experts in thyroid disease suggest that I^{131} ablation should be performed in all patients with differentiated thyroid cancers (follicular and papillary) whether or not there is metastases.[21,22] Their rationale is three-fold: 1) If residual disease is present, it will be irradiated and not cause a local recurrence. 2) The original cancer may be multifocal and this is true for a large number of papillary cancers, and 3) Treating when there is a low amount of tumor cells present will help prevent tumor spread.[21,22] This appears to be especially important in follicular thyroid carcinomas where metastatic lesions may be found 10 to 20 years after a "total" thyroidectomy. The evidence for the use of adjuvant radiotherapy comes from a large series of 576 patients with papillary carcinoma. Of those patients who had surgery alone, 40 percent had a recurrence rate and 13.3 percent death rate. The addition of thyroid hormone decreased the recurrence rate to 10.9 percent and a zero percent death rate. The addition of I^{131} to this therapy further decreased the recurrence rate to only 2.6 percent.[21] Follicular thyroid carcinoma is a more aggressive tumor and the majority of thyroid specialists would treat these patients with postoperative I^{131}. Patients with lung metastases from either follicular or papillary carcinomas which take up I^{131} are very sensitive to this therapy and it is not uncommon to see lung or bone metastases disappear after treatment with I^{131}. Table 1 illustrates which patients should receive routine thyroid I^{131} ablation. This is a very conservative table that almost everyone treating patients with thyroid carcinoma would agree should receive I^{131} ablative therapy. It should be recognized that others would treat more aggressively and they would suggest that everyone receive I^{131} who has a papillary or follicular thyroid carcinoma.[21,22] The preparation for treatment should be an I^{131} total body scan to determine if metastatic lesions are present and if they concentrate the radioactive iodine. This total body scan is usually done with 2 to 10 mCi of the I^{131} or I^{123}, which gives a lower radiation dose and is the preferred scanning isotope at present.

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TABLE 1

INDICATIONS FOR ROUTINE I^{131} ABLATION

Patients under 20 years of age with papillary or follicular cancer since they have a high incidence of occult metastases.

Patients 20 to 40 years of age with follicular or papillary cancer.

- Known residual disease after surgery
- Known metastatic disease
- Unresectable disease
- Recurrent disease
- Invasion of thyroid capsule-seen at time of surgery

Patients 41 years old or older.

- All follicular cancer
- All nonoccult papillary cancer

The present patient illustrates an important point. In 1982, her scan with 2 mCi showed no uptake in the lung metastases, but when repeated with 10 mCi there was uptake and she was then retreated with I^{131} ablation. In 1983, the total body scan was done with 2 mCi and showed no uptake. A 10 mCi scan was not done and she did not receive another I^{131} ablative dose. Whether or not a total body scan indicating uptake with 10 mCi with another I^{131} ablative dose at that time, based on this increased uptake, would have prevented the increased number of pulmonary metastases three years later is unknown. If one has a patient with pulmonary metastases that are

not decreasing in size or number on the chest X-ray at a yearly followup, it would appear important to repeat a total body scan with a higher dose (10 mCi) if the 2 mCi dose is negative to help guide one in therapy. The recommended time to do the total body scan and preparation for I^{131} ablation therapy are seen in Table 2. With respect to the dose utilized in I^{131} ablative therapy, it has been found that recurrence rates are significantly reduced when the amount of I^{131} given is greater than 90 mCi.[23] To ablate thyroid remants in the neck, 87 percent of the patients have ablation with the first dose of I^{131} ranging from 100 to less than 200 mCi.[24] There was no significant difference in successful ablation of thyroid remants in the neck utilizing doses of I^{131} of 100-149 mCi, 150-174 mCi, 157-199 mCi, and for 200 mCi or more.[24] Without documented metastases, the 100-149 mCi range would, therefore, appear to be the one of choice. With metastases, 150 mCi is usually chosen and if the total body scan has positive uptake on followup at 6-12 months, another 150 mCi is given. This is then followed up by yearly total body scans and retreatment if the scan is positive. Once the total body scans have been negative for I^{123} or I^{131} uptake and there is no increase in number or size of pulmonary metastases, most authors would decrease the frequency of scanning to every 3 to 5 years.

The major complication of the I^{131} treatment is the possible permanent bone marrow suppression which has never been reported with patients receiving less than 200 mCi of I^{131}.[25] There have been 13 cases of leukemia secondary to I^{131} which appear dose-related with the mean amount of radioactive iodine administered being 900 mCi accumulated in these patients. It would appear best, with respect to side effects, that the total I^{131} accumulated dosage be 500 mCi or less, although up to 1,000 mCi total dose is still accepted practice at some medical centers. Minor side effects such as nausea are more common and it is a good idea to premedicate the patient with an antiemetic before treatment dosage with I^{131}.

Long-term Followup and Treatment:

In addition to followup with yearly chest X-rays and the total body scans mentioned above, the patient should be placed on thyroxine (Synthroid®) three to four days after the I^{131} treatment dosage. The thyroid hormone is utilized to shut off the TSH stimulation of the metastatic lesions. The dose of Synthroid® utilized is the amount to make the patient euthyroid while at the same time shutting off TSH secretion. This dosage is usually 150-200 mcg T_4/day. An important point illustrated in the present case is that the clinical TSH radioimmunoassay does not distinguish between "zero" and "low normal" levels of TSH and one should not keep increasing the dose of Synthroid® in an attempt to make the TSH "zero." When 300 mcg T_4/day was utilized to do this, the pa-

TABLE 2

PREPARATION FOR I^{131} ABLATION THERAPY

1. Increasing TSH levels has been shown to augment I^{131} uptake into well differentiated thyroid carcinomas. Thus it's essential to increase the TSH maximally before treatment to facilitate and maximize the I^{131} therapeutic dose. In most cases a four to six week abstinence postsurgery of thyroid hormone is sufficient to raise the TSH above 50 uIU/ml. A TSH of 50 to 100 uIU/ml would be ideal before treatment. If a patient has been on thyroxine (Synthroid®), one needs to stop this four weeks (at least) before therapy. If the hypothyroidism that ensues is a problem for the patient, the patient may be placed on triiothyronine (T_3, Cytomel®) which has a shorter half life, until 10 days before treatment. It is to be emphasized that T_3 has to be stopped to allow endogenous TSH to increase. The TSH value should be measured before treatment to be sure it is increased to greater than 50 uIU/ml.
   If the TSH does not increase to greater than 50 uIU/ml, this can be augmented by giving 10 units of bovine TSH injections daily for three days prior to therapy. However, this is not the preferred method since it may not provide a high enough level over a sufficient period of time to augment uptake of I^{131} into metastatic tissue.
2. Avoid contrast agents (IVP dyes, CT scan contrast agents) and iodized substances for four weeks before treatment.

tient's T_4 increased to 17.4 ng/dl and she was clinically hyperthyroid. Doses of thyroid hormone sufficient to suppress the TSH will decrease the risk of recurrence and death from papillary thyroid carcinomas.[24] Thyroid hormone therapy also decreases the risk of recurrence of follicular thyroid carcinomas but whether there is a decrease in mortality with the therapy is unclear at present.[3] One needs to remember that each year before a total body scan, this thyroid hormone must be stopped for 4-6 weeks prior to allow the TSH to increase above 50 uIU/ml. (Table 2)

Prognosis

Pure follicular thyroid carcinoma is generally considered to be more malignant than the papillary thyroid carcinoma. A recent retrospective analysis of all patients in the Armed Forces Hospitals with pure follicular carcinoma revealed that is true *if* metastatic disease is present at the time of initial presentation.[3] The patients who are likely to die of follicular thyroid carcinoma have distant metastatic disease at the time of initial presentation, while the overall prognosis is good for those patients with disease initially confined to the neck.[3] With respect to pulmonary metastases in a review of the 1,127 patients with well differentiated thyroid carcinoma in the last 30 years at M. D. Anderson Hospital in Houston, 101 had documented pulmonary metastasis.[27] The incidence of pulmonary metastases in patients with follicular thyroid carcinoma was 13 percent in this series.[27] These authors found that patients who were younger than 40 years of age at diagnosis had a better prognosis (71 percent survived) compared to those over 40 years of age (16 percent survived).[27] Other studies have shown similar findings using 40 years of age as an index.[4] It should be remembered, however, that the majority of follicular carcinomas present in persons over the age of 40 years, while the majority of papillary thyroid carcinomas present below this age. Treatment does appear to affect prognosis. Patients who are considered free of their metastases after I^{131}-therapy, survive two to three times as long (average survival years 17.5 years versus 7.2 years) as those patients who are not free of metastases after I^{131}-therapy.[9]

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The Relevance of Rehabilitation in Primary Care

F. Patrick Maloney, M.D., M.P.H.*

INTRODUCTION

The principals of Rehabilitation Medicine (RM) should be a vital part of primary care practices. This paper will discuss reasons for this assertion, RM practice and tertiary prevention in primary care, and apply these concepts to a single disorder, stroke.

DISCUSSION

Physical Medicine and Rehabilitation (PM&R) was established as a separate Board by the American Board of Medical Specialties in 1947 in response to recommendations of a committee of physicians and scientists, the Baruch Committee, and to answer the needs of World War II veterans. Over the ensuing year, RM principals expanded beyond the initial population to include a broad spectrum of physically disabling conditions. Shifts in emphasis have occurred with advances in medicine. For example, neurologic impairment following premature birth has assumed a major role in pediatric rehabilitation with the advent of neonatal intensive care units and high risk nurseries. The graying of America is beginning to increase the numbers of elderly patients with multiple and complex medical problems.

Physicians in other fields frequently have difficulty in understanding the content of PM&R practice. This situation is largely due to factors inherent in traditional medical education and an absence of rehabilitation in many medical school curriculums.

Rehabilitation is part of the health care delivery process. Of the 23 specialities recognized by the American Board of Medical Specialties, only preventive medicine, emergency medicine, and physical medicine and rehabilitation are named according to their role in the process of health care delivery. Seventeen specialities, those named for organ systems or applied techniques or procedures, are aspects of acute episodic care, for example, surgery and ophthalmology. Family medicine, pediatrics and internal medicine are titled for their practice population content and are generalist specialties although the subspecialties of internal medicine are organ systems, for example, gastroenterology.[1]

The names of specialties also mirror their orientation of practice. Although individual physicians within specialties apply aspects of rehabilitation in their practices, their specialties as a whole do not. Time limitations of busy practices, lack of information concerning rehabilitation principles, or a disinclination to this part of medical practice also mitigate against usage.

Table II summarizes many of the differences between Physical Medicine and Rehabilitation (PM&R) and other medical specialties. Medical education traditionally emphasizes acute episodic care and its technology. Clinical care and research is aligned toward "cure" and the reduction of mortality rates, whereas rehabilitation orients toward chronic disease, morbidity, and the quality of life.

Rehabilitation services are usually provided through an interdisciplinary team. The team consists of physicians, nurses, a variety of therapists, counselors and psychologists.

Rehabilitation services are usually provided through an interdisciplinary team. The team consists of physicians, nurses, a variety of therapists, counselors and psychologists. This approach should be contrasted with the multidisciplinary approach. The former refers to professionals from various medical fields working together for a desired outcome whereas the latter means varied professionals working individually for a desired outcome.

Primary Care and Rehabilitation

A close kinship exists between practices oriented to families and rehabilitation medicine. Rehabilitation medicine is also basically a generalist specialty. The emphasis of rehabilitation on neurologic and musculoskeletal disorders has misled people to compare rehabilitation medicine with neurology and orthopedics. The generalist

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nature of rehabilitation medicine has become more evident in recent years as these principles are increasingly applied to other disorders such as malignancies, the deconditioned geriatric population, cardiac and pulmonary rehabilitation, and a broad range of disorders in the pediatric population.

The primary care physician does not often have ready access to an interdisciplinary team nor the time needed to provide comprehensive services. The average office visit for family practice approximates 15 minutes.[3] However, family practitioners develop an intimate knowledge of their patients and families, and are positioned to mobilize individual team members as needed.

Neurologic and musculoskeletal diseases, the bulk of RM practices, are also common in family practices. The caseload of family practices has an aggregate of about 7% of their practice devoted to these disorders exclusive of fractures, strains and sprains. This percentage increases with patient age, representing 15% of office visits after age 35 and increasing to about 27% by age 75.[9]

These conditions are even more prevalent in the population at large, some patients not having sought physician's advice. For example, 8.5% of the population claim back or spine problems, and 24% classify as having upper extremity, shoulder, and ill-defined conditions of the limbs, back or trunk.[4]

TABLE I

NEUROLOGIC AND MUSCULOSKELETAL CATEGORIES OF DISORDERS, COMMON TO BOTH PRIMARY CARE AND REHABILITATION[9]

Arthritis and related disorders
Central nervous system and related disorders
Disorders of pain
Acute soft tissue or joint disorders
Chronic skeletal disorders

Common Problems Following Stroke Rehabilitation

A familiarity with rehabilitation methods in primary care can be applied to the aftercare of stroke. Table III lists problems commonly seen during an admission for rehabilitation following stroke. Psychologic, social, function related, vocation and community re-entry problems are rehabilitation concerns. Successful inpatient re-

TABLE II

DIFFERENCES BETWEEN PM&R AND OTHER MEDICAL SPECIALTIES

	Rehabilitation	Primary Care
1.	Chronic disease	Acute illness
2.	Long term care	Short term care
3.	Team/interdisciplinary	Solo/multidisciplinary
4.	Morbidity/quality of life	Mortality/cure
5.	Hospital based	Office based
6.	Process/function oriented	Organ system/procedure oriented
7.	High tech has low visibility	High tech has high visibility

TABLE III

STROKE PROBLEM LIST

1. Paralysis, paresis
2. Sensory Impairment
3. Ataxia
4. Incoordination
5. Spasticity
6. General Dyspraxia
7. Visual field defect
8. Disorientation, confusion
9. Impaired cognition
10. Emotional lability
11. Impaired judgment
12. Perceptual impairment
13. Aphasia, dysarthria, dyspraxia
14. Bladder dysfunction
15. Bowel dysfunction
16. Impaired locomotion
17. Prevention of contractures
18. Self care dependency
19. Need for adaptive equipment
20. Adjustment to disability, patient
21. Adjustment to disability, family
22. Vocational/avocational adjustment
23. Discharge planning (home/nursing home)

habilitation results in resolution or plateauing of problems, patient and family education, home programs and continued outpatient treatment when needed.

Follow-up care relating to rehabilitation is likely to be more focused than the above list. Painful shoulders, unwarranted family concerns of deterioration, equipment problems and unanticipated community re-entry difficulties may bring the patients to their primary care doctors.

Office interventions can effect solutions to many of these problems. Other instances call for the application of a team concept by an awareness of the functions of the team members and a judicious but focused referral for service within that framework.

Increased Tripping and Falling

Patients and families frequently wonder whether these symptoms indicate progression of the neurologic picture. The hemiplegic pattern in the leg includes an equinus position of the foot with weak or absent dorsiflexion, inversion and eversion. Commonly, this patient will have a tight heel cord or poorly adjusted brace. The combination of the force of gravity and weak or unopposed plantar flexion can result in a heel cord contracture resulting in increased foot dragging and thus increased tripping and falling. Additionally or alternatively, the ankle joint of metal braces may need adjustment to prevent foot drop.

Stretching of the heel cord may correct the problem over two to six weeks by allowing the range of motion needed for toe pick up. Surgical intervention (heel cord tenotomy or lengthening) may be considered should the problem persist.

Figure 1 shows two methods of heel cord stretching. In Figure 1a, the patient stands facing the wall and leans into the wall at the hips, keeping the knees straight. The proper distance from the wall is the distance where the heel is off the floor ½ to 1 inch. The patient can then relax the good side and allow his body weight to streach the heel cord. This stretch should be maintained for 20-30 minutes at least twice daily. As the range improves, the patient can progressively inch further out from the wall.

A simple way to measure progress is to mark the foot position on a strip of masking tape run perpendicular from the wall. As improvement occurs, the patient toes up further from the wall. Alternate stretching methods use a wedge of wood, an angled board (Fig. 1b) or positioning the foot on the edge of a step with the forefoot on the step and the heel off.



Figure 1a.



Figure 1b.

Figure 1. Stretching methods for triceps surae. 1a. Wall stretch. 1b. Use of angled board or wedge.



Figure 2a.

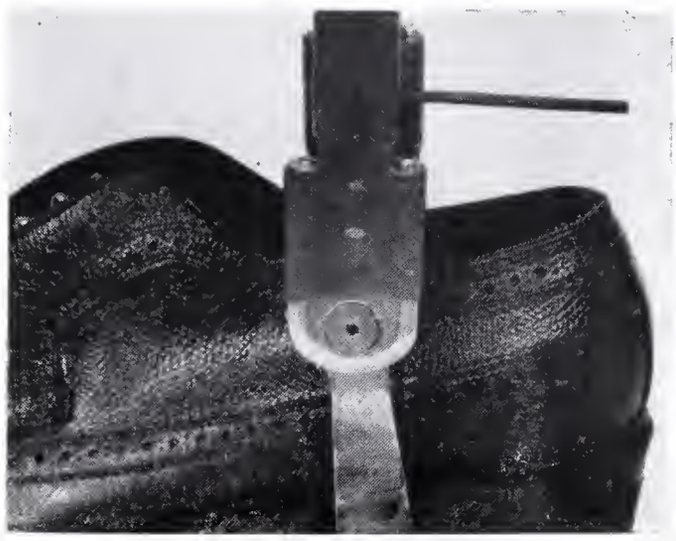


Figure 2b.

Figure 2. Ankle joints. Figure 2a. Klenzak type, single set screw adjusts spring assist. Figure 2b. Double action type, showing Allen wrench adjustment for posterior stop.

The ankle joints of short leg braces (called AFOs or ankle foot orthoses) should have a 90° posterior stop to prevent foot drop. This posterior stop is controlled by adjusting an Allen head cap screw. This can easily be evaluated in an office and corrected if the physician has the correct size Allen wrench.

Figure 2 shows the common Klenzak (2a) and double action ankles (2b). The Klenzak ankle has a dorsiflexion assist spring which can be tightened or loosened (Fig. 3). The double action ankle with both anterior and posterior adjustments allows more precise alignment. Finally, the height of the brace can be checked quickly. It should be 1-2 finger breadths below the fibular head to prevent compromise of the common peroneal nerve. Problems with plastic AFOs are usually due to a patient changing to shoes with a different heel height, since the ankle angle is fixed.

Other AFO problems are pistoning of the foot in the shoe, mediolateral ankle instability, pressure areas and blisters, and knee buckling. These are corrected by shoe modifications, ankle adjustments, additions of straps or changes in the type of bracing.[7]

Painful Shoulder

Many painful shoulders in stroke patients will require active physical therapy and may need consultation with orthopedists, neurologists or physiatrists. Paralyzed arms, or arms not consistently moved through a normal range of motion for any reason, frequently develop painful shoulders. Some of these patients may also present with a shoulder-hand syndrome or reflex sympathetic dystrophy.

The cause of shoulder pain is presumed due to an adhesive capsulitis, development of contractures, and subluxation of the shoulder. However, subluxation is probably overrated as a cause of painful shoulders since many patients with subluxation have no associated pain. Arm slings which keep the humoral head in place also may promote the development of contractures and painful shoulders if a program of range of motion maintenance is not followed.[2] The treatment for this condition consists of heat, usually both hot packs and ultrasound, followed by active range of motion exercises, self range of motion exercises (using the uninvolved arm to take the involved arm through a range of motion), "wall climbing" or wand exercise. The latter two methods require a functional hand. Pain medications without active treatment are of little value.

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Sometimes a transcutaneous electrical nerve stimulator (TENS) may relieve pain. The current produced by TENS is thought to block pain impulses in the substantia gelatinosa of the dorsal horn of the gray matter by substituting or over-

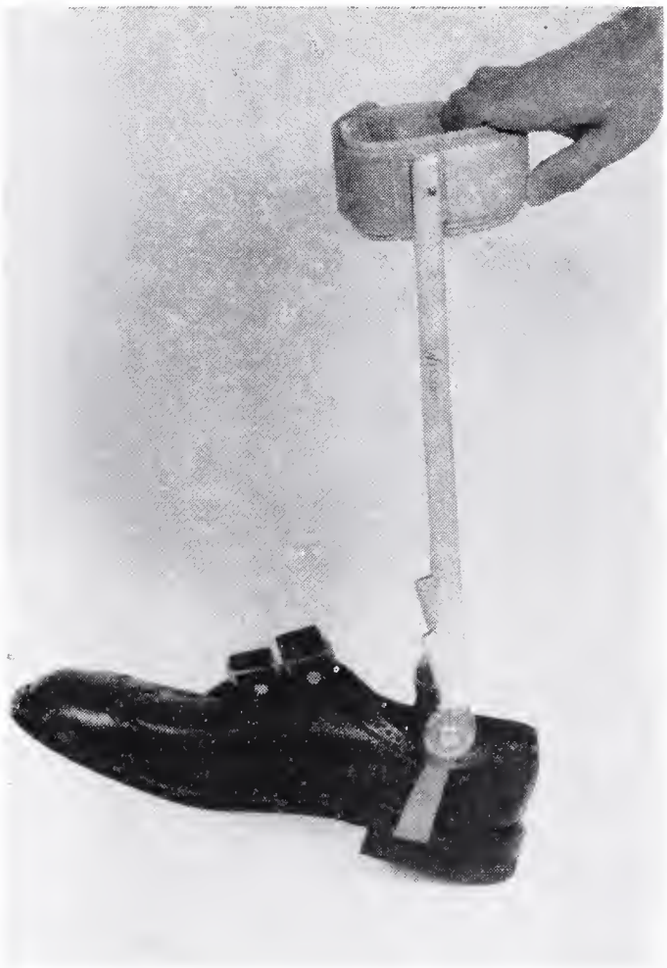


Figure 3a.

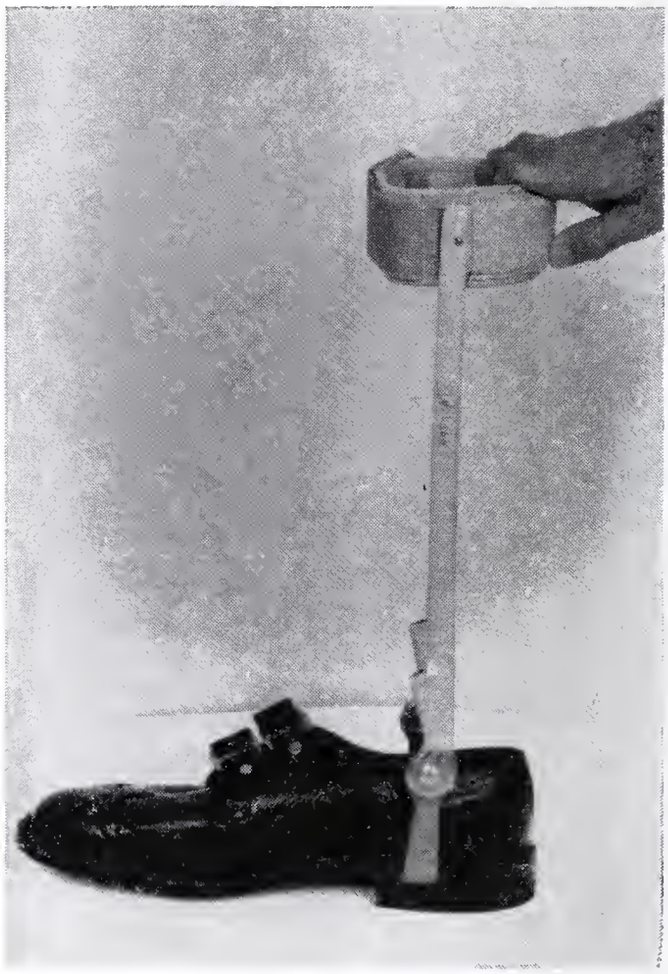


Figure 3b.

Figure 3. Ankle foot orthosis with Klenzak type ankle showing (a) maximum range with spring assist and (b) 90° posterior stop.

loading the pain pathway C fibers with the tingling or vibratory sensation arriving via large diameter A fibers.[5,10] The exact mechanism of action is not known. This equipment can be used before or during therapy to enable the therapist to work more aggressively with the patient. The purchase of a TENS unit is usually reserved for patients where other means of treatment have been exhausted since TENS is usually to be used permanently. A one month's trial rental of a TENS unit is desirable before a decision to purchase is made, since the initial pain relief may be short lived.

Reflex sympathetic dystrophy (RDS), on the other hand, is a more complex problem. RDS may present to the office in its early stages when aggressive treatment is beneficial. Although presenting signs vary, RDS characteristically will show swelling and vasomotor changes in the wrist and hand and tenderness of the wrist and finger joints (especially metacarpal phalangeal joints) in addition to a painful shoulder. Patchy demineralization of bone and increased uptake of radionuclide around wrist and finger joints by delayed phase bone scan can be found.[11] Heat, gentle stretching exercises to regain full range of motion, and mobilization exercises may reverse the process. Nonsteroid anti-inflammatory medications are given. Heat should be used with caution since it may not relieve pain and may actually increase the pain. Sympathetic (stellate) ganglion blocks are commonly used for refractory RDS. It is important that these blocks be followed by therapy to take full advance of any period of relief.[2,6,8]

The aforementioned problems can be prevented or minimized by reviewing patient compliance with shoulder and ankle range of motion exercises, assuring that proper slings are used for shoulder subluxation and simple brace adjustments.

SUMMARY

Disorders commonly seen by primary care physicians are also common to the practice of PM&R. Even greater numbers of people with these problems exist in the population but do not seek medical assistance. Medical education does not

stress the principles of their management. Busy physicians may not have the time or easy accessibility to personnel to formally use an interdisciplinary team approach to management. However, the philosophy and the nature of family practices that know families over time is closely akin to rehabilitation.

Tertiary prevention, the minimizing of residual impairments and potential consequences of disability, is an important primary care function. Examples of such procedures for stroke were discussed. For increased tripping and falling, attention should be drawn to a possible Achilles tendon contracture and the ankle joint adjustment of an AFO. Instruction in techniques for stretching the heel cord at home and adjustments of the ankle joints of AFOs are useful office practices.

Painful shoulders, including reflex sympathetic dystrophy, are common sequelas of stroke. Prevention of these problems consists of assuring that patients are regularly maintaining shoulder range of motion and that subluxing shoulders have proper slings. A recent onset of symptoms frequently responds to heat, stretching and mobilization exercises by a physical therapist. Nonsteroid anti-inflammatory agents may be helpful. More refractory cases should be referred to appropriate medical consultants.

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Maternal and Fetal Response to the Intrapartum Use of Butorphanol

Richard A. Wyatt, M.D.,* Frederick R. Jelovsek, M.D.,** and Frank C. Miller, M.D.**

ABSTRACT

Butorphanol, a widely used labor analgesic, was measured for its effect on fetal heart tracings and maternal transcutaneous (tc) pO_2 and pCO_2. We found a decrease in $tcpO_2$ and an increase in $tcpCO_2$ similar to that found for meperidine and morphine by other investigators. The fetal heart rate also decreased about five beats per minute and remained at this level longer than 30 minutes. As with narcotic analgesics, short-term variability in fetal heart rate was significantly decreased and we observed a sinusoidal fetal heart rate pattern in one of eighteen cases. The use of butorphanol during labor obscures fetal heart rate variability as an indicator of fetal distress. This drug effect, which is similar to that of meperidine and morphine, should be taken into account when evaluating fetal heart rate tracings.

INTRODUCTION

Butorphanol tartrate,*** a synthetic agonist-antagonist analgesic, has been marketed for the relief of pain in various clinical situations including obstetrical anesthesia. The analgesic potency is approximately that of morphine and 40 times that of meperidine.[1] The duration of analgesia is generally three to four hours when given intravenously. The onset of action is very rapid after intravenous infusion, with peak analgesia usually obtained within 30-60 minutes. Unlike meperidine, the primary metabolites of butorphanol are inactive.[2,3] Furthermore, this compound causes minimal maternal side effects and no demonstrable neurobehavioral effect of the newborn.[1,4]

The purpose of this study is to determine the effect of butorphanol on baseline fetal heart rate, fetal heart rate variability, maternal tissue transcutaneous pCO_2 ($tcpCO_2$) and transcutaneous pO_2 ($tcpO_2$) and the efficacy of maternal pain relief.

Materials and Methods

The study included 18 uncomplicated patients in active labor who desired analgesia. Cervical dilatation ranged from 4 cm to 7 cm. All of the patients had ruptured membranes and had direct electronic monitoring of the fetal heart rate and measurement of uterine activity by intrauterine pressure catheters.

No patient received intravenous or intramuscular medications, with the exception of oxytocin, for at least two hours prior to the onset of the study period. Patients receiving oxytocin were maintained at a constant infusion rate for at least 30 minutes before and throughout the study interval.

Cervical dilatation and fetal station were determined at the beginning of the observation period. Patients were then positioned in a comfortable left lateral position where they remained throughout the study period. A control period of 30 minutes was utilized to determine baseline levels for the study parameters. Following the slow intravenous administration of 2 mg of butorphanol, patients were observed for 30 minutes.

A control period of 30 minutes was utilized to determine baseline levels for the study parameters. Following the slow intravenous administration of 2 mg of butorphanol, patients were observed for 30 minutes.

During control and study periods, maternal $tcpO_2$ and $tcpCO_2$ were recorded continuously via electrodes (utilizing a Novametrix TCOM 818 unit) attached to the anterior chest just inferior and lateral to the xyphoid. Since transcutaneous-

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***Stadol®—a registered trademark of Bristol Laboratories, Syracuse, New York.
Reprint Requests: Frank C. Miller, M. D., University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Arkansas 72205.

ly derived pO_2 and pCO_2 levels reflect only a percentage of actual arterial levels, the trends of any change from baseline are reported, not the absolute value. The baseline fetal heart rate and fetal heart rate variability were manually determined from the heart rate recording.

Subjective pain relief was assessed by use of a simple line graph. At the end of the study period, patients were asked to mark on a line at the point they would grade their pain relief. At one end of the line, "no pain" was written to indicate the drug had relieved all of the patients pain. At the other end of the line, "full pain" was written to indicate the drug gave virtually no pain relief. Midway in the line, "50% pain relief" was written.

RESULTS

The baseline (median) maternal $tcpO_2$ and $tcpCO_2$ were recorded and changes above or below these baseline values noted. In 14 of 18 patients, the $tcpO_2$ fell within 1-5 minutes following the butorphanol injection and change from baseline values were lowest at 5 minutes. A gradual rising trend followed, although the value was still less than baseline at the end of the study period (Fig. 1). The change of $tcpCO_2$ from baseline values was less dramatic and is depicted in Figure 2.

The median baseline FHR during the control period was 135. At the end of the study period, the median baseline FHR had gradually fallen to 130 (Fig. 3). Baseline changes in FHR variability were noted by 5 minutes, primarily in short term variability, in 13 of 18 patients. At the end of the study period the decrease in variability remained (Fig. 4).

Five patients were noted to have variable decelerations during both the control and study periods. In one patient, the decelerations became severe during the study period. One patient developed a sinusoidal HR pattern immediately after receiving the drug injection and the study was discontinued. This phenomenon has previously been reported.[5]

When asked about the analgesic efficacy of the drug, the following results were obtained: Three patients reported no pain relief; one reported minimal relief; three claimed 25% pain relief;

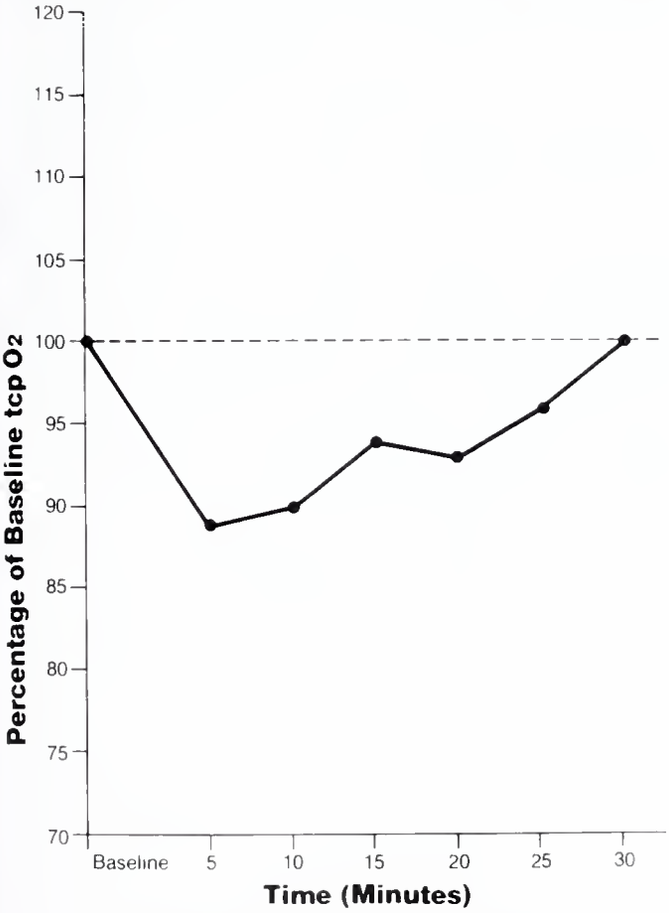


Fig. 1 Percentage changes of tcp O_2 from the median baseline values

Figure 1.
Percentage change of maternal transcutaneous pO_2 from median baseline values following butorphanol injection.

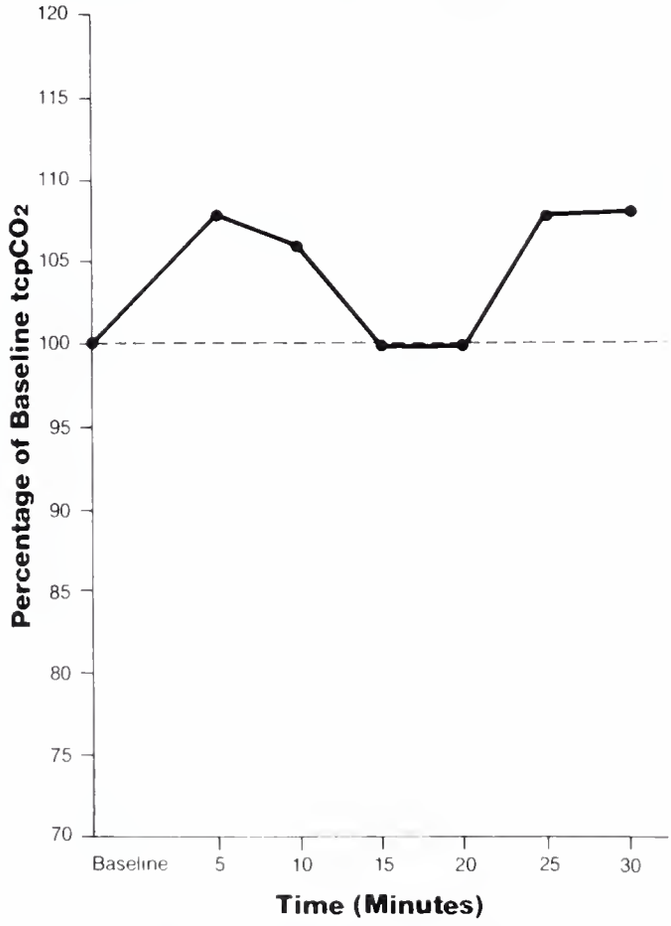


Fig. 2 Percentage changes of $tcpCO_2$ from median baseline values

Figure 2.
Percentage change of maternal transcutaneous pCO_2 from median baseline values following butorphanol injection.

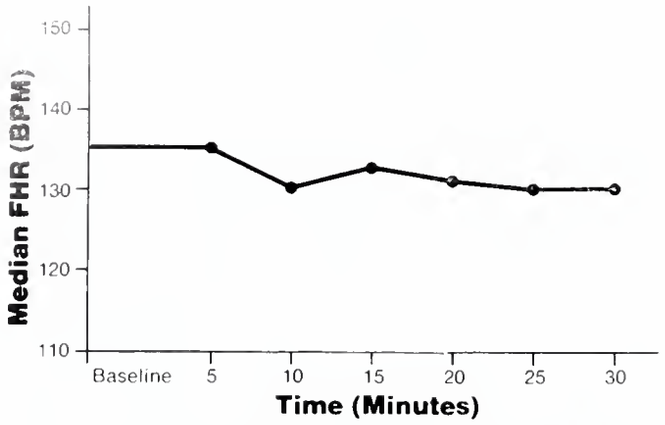


Fig. 3 Changes in Fetal Heart Rate

Figure 3.
Changes in fetal heart rate following butorphanol injection.

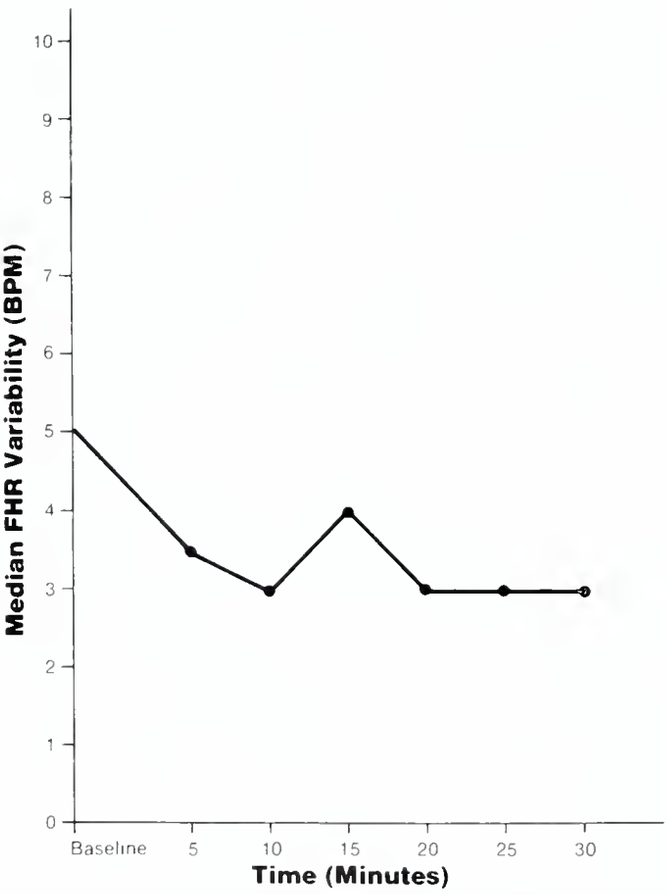


Fig. 4 Changes in FHR variability

Figure 4.
Changes in fetal heart rate variability following butorphanol injection.

eight felt as though 50% of their pain was relieved; two claimed 75% pain relief; one patient, when awakened to ask about the pain relief property of the drug responded, "What pain?". Only 5.5% of the patients felt they were pain-free. (Table 1)

The results were statistically analyzed by both signed-rank tests and paired t-tests. The decrease in $tcpO_2$ was statistically significant throughout the study ($p<.05$). The decrease in FHR variability was very significant ($p<0.001$), as was the decrease in baseline FHR ($p<0.001$).

TABLE 1
PAIN RELIEF FROM I.V. BUTORPHANOL

Pain Relief	% of Patients
0%	16.7%
10%	5.5%
25%	16.7%
50%	44.4%
75%	11.1%
100%	5.5%

DISCUSSION

Maduska, Hodgkinson,[1,2,4] and others have shown that butorphanol is a safe and effective agent for use in obstetrical anesthesia with a low incidence of side effects. This study showed that butorphanol use is associated with a clinically significant reduction in fetal heart rate variability, just as Petrie et al.[3] demonstrated with meperidine and morphine.

One patient, when awakened to ask about the pain relief property of the drug responded, "What pain?". Only 5.5% of the patients felt they were pain-free.

Narcotic analgesics such as meperidine and morphine have a respiratory depressant effect. Miller et al. showed this to also be true in an obstetrical setting with alphaprodine.[6] Our study shows a reduction in maternal $tcpO_2$. One other finding of note was an accentuation in several patients of the rhythmic fluctuation of pO_2 and pCO_2 with respirations. The clinical significance of this is not clear.

This study shows little correlation of the decrease in maternal $tcpO_2$ with the reduction of fetal heart rate variability. Peak reduction in maternal $tcpO_2$ occurred within 5 minutes; however, the peak reduction in variability occurred at 25 minutes. This probably represents a drug effect rather than fetal hypoxia. These findings are similar to those of Miller,[6] using alphaprodine.

Although not illustrated here, the decrease in fetal heart rate variability lasted much beyond the 30 minute study period. Further investigations as to the length of reduction in variability and neonatal outcome are warranted.

In summary, butorphanol is safe during labor but does have noticeable drug effects similar to those described for narcotic analgesics. It should be used with caution if fetal distress is suspected or anticipated, since it can alter fetal heart rate variability as an indicator of fetal hypoxia.

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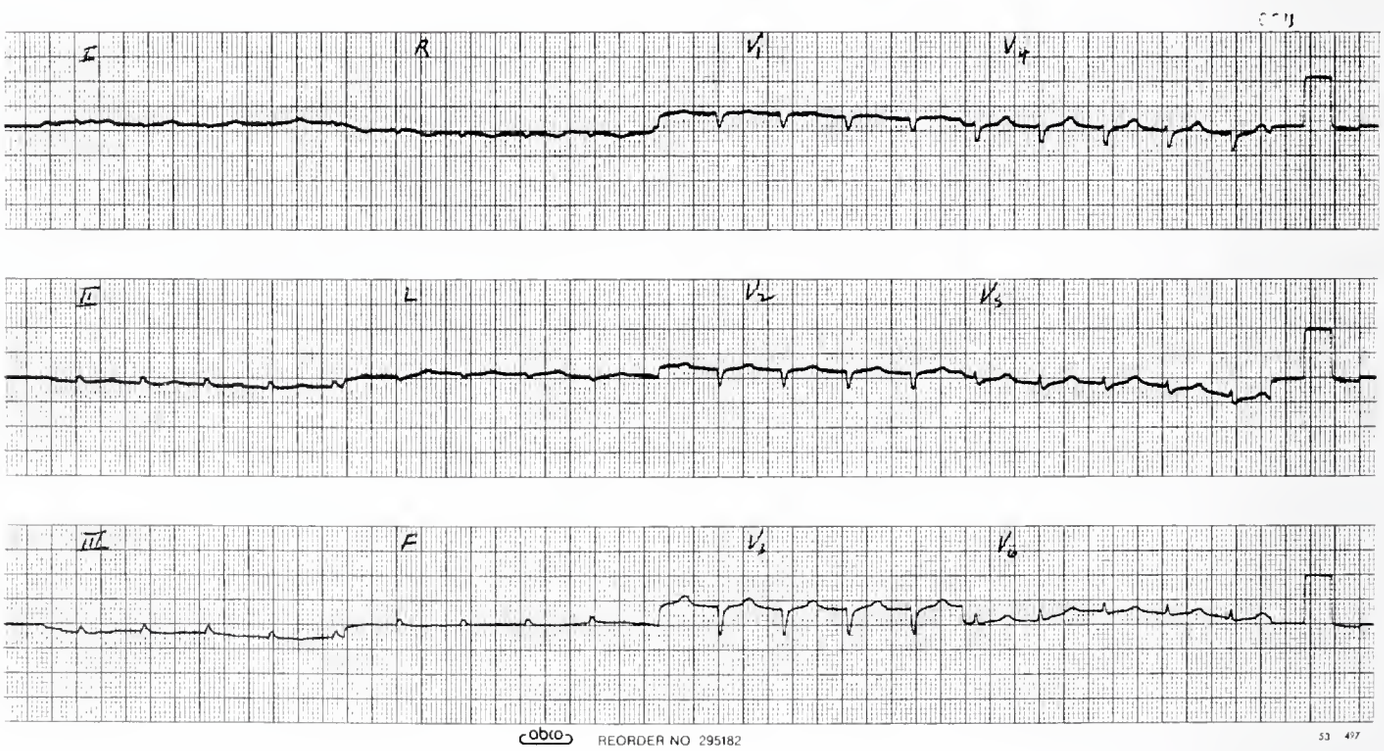
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ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See **Answer on Page 294**)

CLINICAL HISTORY: B. E. B. is a 44-year-old smoker who also abuses himself with alcohol. He has presented because of malaise, cough, exercise intolerance, weight gain, shortness of breath, mental slowing, and an increase in abdominal girth. His physical examination shows hypotension, neck vein distension, distant heart sounds, ascites and peripheral edema. His ECG is shown. What do you think about the trace and its relationship to the clinical picture?



A. J. Thompson, M.D., and John W. Watson, M.D.
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The Controlled Substances Act and You

Don Phillips, P.D., M.P.A.*

The following information is provided by the Arkansas Department of Health Division of Pharmacy Services to assistant physicians in understanding the provisions of the Controlled Substances Act and the Arkansas Department of Health Rules and Regulations Pertaining to the Act.

In many cases the Arkansas State Laws and Regulations are much more stringent than federal law and take precedence over federal law. The information below is an example of specific situations as outlined in the federal and state regulations.

REGISTRATION

Every physician who administers, prescribes or dispenses any controlled substances must be registered with the Drug Enforcement Administration, Registration Unit, P. O. Box 28083, Central Station, Washington, D. C. 20005. A physician who wants to become registered must apply on Form DEA-224, which can be obtained from the registration unit, or from the Arkansas Department of Health, Division of Pharmacy Services.

The registration must be renewed annually and the certificate of registration must be maintained at the registered location and kept available for official inspection.

If a physician has more than one office in which he administers and/or dispenses any controlled substance, he is required to register at each office.

A physician who moves his place of practice within the same state must request modification of his registration from the Drug Enforcement Administration.

RECORDS

A physician who prescribes, administers, or dispenses controlled drugs in the lawful course of professional practice is required to keep records of those transactions. Complete records of all controlled substances transactions must be kept for a period of two years.

Records of prescribing of controlled drugs are to be kept in patients records. Records of administering and dispensing of controlled drugs must be kept in addition to patient records, separate from and in such a form as to be readily retrievable for inspection by the Health Department's inspectors.

The inventory record must:

1. List the name, address and D.E.A. registration number of the registrant.
2. Indicate the date and the time the inventory is taken.
3. Be signed by the person or persons responsible for taking the inventory.
4. Be maintained at the location appearing on the registration certificate for at least two years.
5. Keep records of Schedule II drugs separate from all other controlled substance records.

Every two years following the date of the initial inventory, a new inventory is required.

A record of all controlled substances received, including samples, must be maintained in such a form as to be readily retrievable for inspection.

All orders for Schedule II controlled drugs are to be obtained by using DEA Form -222 order forms.

DISCONTINUANCE OF PRACTICE

A physician who discontinues practice must return his D.E.A. Registration Certificate and any unused Schedule II order forms to the Drug Enforcement Administration. All controlled substances in his possession at the time of discontinuing practice should be sent to the Arkansas Department of Health, Division of Pharmacy Services for destruction. Complete information and the proper forms to be used may be obtained

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from the Department of Health, Division of Pharmacy Services.

SECURITY

A physician who has controlled substances stored in his office or clinic must keep these drugs in a securely locked, substantially constructed cabinet or safe.

It is recommended that the controlled substances stock should be kept to a minimum. Access to the controlled substances storage area should be restricted to the absolute minimum number of employees.

DRUG LOSS

A physician involved in the loss of controlled substances must notify the Arkansas Department of Health, Division of Pharmacy Services of the loss upon discovery. The Arkansas Department of Health, Division of Pharmacy Services will provide information on what reports are required of the physician and proper forms to use for the reports.

SURRENDER OF UNWANTED CONTROLLED SUBSTANCES

All controlled substances no longer usable because of deterioration, expired dating, or are unwanted, must be delivered in person or by registered mail or other means of shipment with return receipt to: Division of Pharmacy Services, Arkansas Department of Health, 4815 West Markham Street, Little Rock, Arkansas 72205-3867 accompanied by all completed copies of Report of Drugs Surrendered (Form PhA: DC-1) furnished by the department. All controlled substances may be destroyed only by authorized agents of the Department of Health, Division of Pharmacy Services.

For a complete listing of all the controlled drugs and state regulations pertaining to the handling of controlled drugs, or additional information, contact the Arkansas Department of Health, Division of Pharmacy Services, 4815 West Markham Street, Little Rock, Arkansas 72205-3867, (501) 661-2325.

Appendicolitus and Acute Appendicitis in Children

D. S. Bachman, M.D., and R. Kingsley Bost, M.D.*

INTRODUCTION

Appendicitis in children and especially in infants is often difficult to diagnose. The classical clinical picture of acute appendicitis is unusual in this age group. Laboratory findings may or may not be of help. Abdominal x-rays may be of great help.

The following is a case report of appendicitis in an infant and a brief review of the literature.

CASE REPORT

An 18-month-old white female was admitted to St. Mary's Hospital in Russellville, Arkansas, on October 8, 1985. There was a two-day history of abdominal pain and vomiting with fever ranging from 102 to 105 degrees Fahrenheit. She had been seen in the out-patient clinic the day before admission. A urinary tract infection was suspected. A urine specimen was obtained. Culture was reported as being negative. The patient vomited several times the day before admission as well as the morning of admission. There was no history of diarrhea. The patient had lost two pounds in weight since the onset of her illness. She had not urinated for at least six hours prior to admission.

History

She was a C-section birth and was jaundiced in the nursery. As an infant, she had three or four ear infections and a urinary tract infection.

Physical Examination

This was a listless, fussy, dehydrated white female. Weight was 23 pounds and temperature was 100 degrees F. ENT and chest examinations were normal and chest x-ray was normal. Abdominal examination revealed hypoactive bowel sounds and generalized abdominal tenderness. CBC revealed WBC 9,000 with 80% polys. and 18% lymphs. Serum sodium was 137, potassium 4.8, chloride 86, and BUN 17.6.

Hospital Course

The admitting diagnosis was acute gastroenteritis with dehydration. The patients was placed on I.V. fluids. The day after admission an acute abdominal series was obtained. An appendicolith was seen in the right lower abdominal quadrant. There was marked ground glass appearance of the abdomen compatible with peritonitis. With these x-ray findings and the clinical presenting picture, it was felt that the patient had an acute appendicitis with perforation and peritonitis. At surgery, an acute retrocecal perforated appendix with peritonitis and paralytic ileus was found. Appendectomy was done. An obstructing appendicolith was present in the appendix. Culture of the peritoneal fluid revealed anerobes and Clostridium perfringenes. The patient was treated with I.V. Mefoxin, 250 mg. q 8 hours, Levin tube drainage was also instituted. Prior to surgery the patient was given 500 mg. of I.V. Rocephin.

Post-operatively, the patient did remarkably well. At the parents' request, she was transferred to Arkansas Children's Hospital the day after surgery. She was discharged five days after admission to that hospital.

INCIDENCE

The true incidence of acute appendicitis in children is unknown. There are about four appendectomies performed annually in every 1,000 children under the age of 14. Acute appendicitis occurs in infancy and has been reported in the neonatal period. It is unusual under age two and rare under the age of one. It is estimated that 0.5% of children with acute appendicitis are under age two.[1]

ETIOLOGY

Obstruction is the primary factor in the pathogenesis of acute appendicitis. The obstruction may be secondary to inflammatory changes from blood borne of enteric infections. Mechanical obstruction may be caused by pinworms, kinking, stenosis, foreign bodies or fecaliths.

*Millard-Henry Clinic, 3105 West Main Place, Russellville, Arkansas 72801.

CLINICAL MANIFESTATIONS

The classical picture of epigastric pain shifting to the right lower quadrant and accompanied or followed by nausea, vomiting and low grade fever is not often seen in the infant. Diagnosis, especially early, is very difficult in this age group. In cases of perforation, one is apt to see a rigid abdomen, grunting respirations, flaring of the alae nasi and an ashen color. Fever over 103° F. is usually indicative of perforation.

Duration of symptoms is the most significant predictor of perforation. A delay in treatment of more than 36 hours after the onset of abdominal pain was associated with a 65% incidence of perforation.[2]

PHYSICAL SIGNS

Abdominal tenderness is most often found, generalized or localized to the right lower quadrant. Peristalsis may or may not be present. An abdominal mass may be present. Abdominal distention may be present.

LABORATORY WORK

Moderate elevation of the WBC is usually present—higher usually in cases of perforation.

X-RAYS

A chest x-ray is indicated to rule out a pneumonic process. Abdominal roentgenograms can be very helpful. The presence of an appendiceal fecalith is strong evidence of acute appendicitis with perforation.

Faegenberg's series of 17 patients with appendicoliths visible on the plain abdominal radiograph all had acute appendicitis and 12 were complicated with gangrene or perforation.[3]

Felson and Bernhard reviewed 110 cases of appendicloliths and found an almost constant presence of acute appendicitis, with an incidence of perforation of nearly 50%.[4] It would appear that obstruction of the appendix is more complete and distention is more marked in the presence of an appendicolith, so that perforation is more frequent and occurs earlier than in the absence of such stones.

Williams[5] concluded from the study of "patients, 26 months to 11 years of age, that the radiographic demonstration of an appendiceal fecalith, even when the signs of acute or chronic appendicitis are atypical, warrants immediate laparoscopy; in 50% of his patients rupture had already occurred. Many experienced pediatricians and surgeons concur that the presence of an opaque fecalith in an asymptomatic child is an indication for prophylactic appendectomy because of the high incidence of perforation of the appendix with peritonitis later, in untreated patients.

SUMMARY

1. A case of acute perforated appendicitis with peritonitis in an 18-month-old infant is presented.
2. A brief review of the literature on acute appendicitis in children, with special reference to the significance of an appendicolith is summarized.

CONCLUSION

1. Acute appendicitis in the infant is difficult to diagnose.
2. Finding an appendicolith on a plain abdominal roentgenogram is most significant.
3. A plain abdominal roentgenogram may be most helpful in the diagnostic workup of a pediatric patient with an acute abdomen.

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ANSWER — Electrocardiogram of the Month

DISCUSSION: The salient feature of the electracardiogram is its law valtage. The mechanism is mast likely sinus tachycardia with the best candidotes far P-waves being seen in V_1. The R-waves progress slowly in V_1 - V_3 but there is atherwise little evidence of an infarct. Low valtoge is aften seen in hypothyroidism, emphysema, pericardial effusion and obesity. Hypathyraidism is commonly seen with bradycardia rather than sinus tachycordio. The clinical informatian gives hints with respect ta the presence af each af the listed possibilities. Further infarmation is needed to further clarify the diagnosis.

The feature editor wishes to thank Dr. Thampsan af Little Rack far his assistance with this potient and for sharing his informotian with the readers of the jaurnal.

Metastatic Colon Carcinoma to the Liver

Bill L. Tranum, M.D., W. Ducote Haynes, M.D., Robert W. Laakman, M.D., and Don I. Scott, M.D.*

PROBLEM

A 73-year-old man with adenocarcinoma of splenic flexure metastatic to the liver presented for discussion of his treatment options.

He had a splenic flexure C-2 lesion 16 months prior to this discussion. He did well postoperatively for approximately 10 months until he developed right upper quadrant pain. CT scan and liver-spleen scan showed multiple lesions consistent with metastatic disease, and his CEA was elevated. He then completed five courses of outpatient 5 Fluorouracil and Mitomycin-C infusion from February, 1986 through June, 1986. He continued to feel reasonably well and had a decrease in his CEA from 200 to 97. However, he developed clinical symptoms including a fever for 21 days and had a slight increase in CEA from 97 to 129, prompting his oncologist to recommend intra-hepatic arterial infusion.

His primary concern was (1) not knowing whether this treatment was necessary or not, and (2) not knowing how the treatment (which includes lying in the hospital on his back for 5 days) would affect him since he had a history of claustrophobia and arthritis.

PATHOLOGY REVIEW

Dr. Scott: The pathology reports have been reviewed, and we agree with the interpretation of adenocarcinoma of colon, metastatic to the liver.

RADIOTHERAPY OPTION

Dr. Haynes: Radiation to the liver is not usually given unless the patient has extensive disease with pain; then it is given to control pain. It is not recommended in this case.

MEDICAL ONCOLOGY OPTION

Dr. Tranum: The slight increase in CEA, along with the onset of fever, suggests regrowth or progression of tumor. If the masses in the liver are larger and the CEA continues to be elevated, then continuing the present treatment would no longer be of any value. It is advisable to repeat the CEA and CT scan, and to check the liver size. If there is evidence of disease progression, the options are as follows: (1) to do nothing, most likely resulting in a progressive downhill course, (2) change to different chemotherapy drugs, which is not strongly recommended, (3) begin intra-arterial chemotherapy to the liver,[1,2,3] (4) administer an embolization procedure to the hepatic artery utilizing collagen coated microspheres, and (5) try other semi-experimental forms of therapy not locally available, e.g., Melphalan therapy followed by autologous bone marrow transplantation or treatment with Interleukin.

RADIOLOGY OPTION

Dr. Laakman: We could embolize the hepatic artery with Ivalon, Gelfoam, or collagen. There is work being done on chemo-embolization, combining mechanical occlusion of small hepatic arteries with chemotherapy to increase the target dose of drug. This is currently available only at the University of Southern California under experimental protocol (unpublished data, Protocol Number 3L-86-1, June 20, 1986), but will be available at St. Vincent Infirmary within a few months.

CONSENSUS

It was recommended that additional evidence of tumor be obtained before changing treatment. If there is evidence that the tumor is growing, he should discuss his options with his oncologist.

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3. Fujimoto, S., Miyazaki, M., et al.: Biodegradable Mitomycin C Microspheres Given Intra-Arterially for Inoperable Hepatic Cancer. Cancer 56:2404-2410, 1985.

*St. Vincent Infirmary Cancer Center, St. Vincent Infirmary, Two St. Vincent Circle, Little Rock, Arkansas.

The Exec's Corner

The Arkansas Medical Society and the Lobbying Effort

Ken LaMastus
Executive Vice President, Arkansas Medical Society

According to Mr. Webster, the definition of lobbying is "to conduct activities aimed at influencing public officials and especially members of the legislative body on legislation; to promote (as a project) or secure the passage of (as legislation) by influencing public officials; to attempt to influence or sway a public official toward a desired action." Some consider lobbying only slightly older than the oldest profession, and just about as honorable.

Early in January, the Arkansas General Assembly will once again be in session. Prior to the start of the session, budget hearings have been going on, issues have been shaping up, and the lobbyists have been at their work. This session of the legislature is going to be much rougher than usual because of the money problems facing the state. Many of the issues in health care will be draped with the cloak of "cost containment".

There will be various groups as well as legislators who bring forth proposed legislation and use the idea of cost containment as an argument in favor of their bill. Some of the examples you will see are lay mid-wives (they charge about $450, which is higher than a physician receives from Medicaid); optometrists want to prescribe drugs because they can save the patient money; pharmacists would like to move the Medicaid program to an all generic drug plan; physical therapists proposing legislation that would allow them to treat patients without referral from a physician. The list goes on.

One of the problems medicine has is that physicians many times feel uncomfortable calling, writing or talking with their legislator about the issues. There are some who feel that their legislator is going to think they're trying to put money in the pocket of physicians or that they are unjustly trying to influence (lobby) some issue. The fact of the matter is that the legislators who do not hear from the physicians back home assume that the physician community has no interest in various pieces of legislation. In fact, this is far from the truth.

A perfect example of this occurred four years ago when the legislature passed the lay midwife legislation. The Society office called many physicians and wrote newsletters requesting that physicians contact their legislators. Some physicians did, but unfortunately it was not enough. Some physicians indicated that this was all a joke. Surely the legislature wasn't going to pass anything as silly as a bill to allow non-trained persons to deliver babies, do episiotomies, and give medications, etc? Unfortunately, this is exactly what happened.

Lack of unity is one of the problems faced by the medical community in trying to address issues. The problem oftentimes involves the fact that the orthopedists and the optometrists are not concerned about who delivers babies; at the same time the family physicians are not concerned about who sees the eye patients. Besides that, how many orthopedists do you know who have treated eye problems, or for that matter, delivered any babies? Obviously, medicine becomes fragmented and the issue sometimes boils down to whose ox is being gored.

What is needed is for physicians to see the problems facing medicine are problems facing *all* of medicine and not some particular specialty. It is the physicians who need to understand that if optometrists use drugs to treat eye disease, the next step is for other limited licensed practitioners to do the same. Then it becomes everyone's problem.

What is needed is more support from back home. It has often been said by the lobbyists at the Capitol, "It sure gets lonesome down here". Of course what they are saying is that we need the help from the people back home. We need physicians to contact legislators and explain to them the issues that affect their profession. It seems that the medical community is among the weakest

in their support of things that affect their profession. It is very disheartening for those who work at the Capitol to have a legislator respond to the request by saying, "I don't care if the Arkansas Medical Society is concerned about this issue, my doctor back home could care less". I can assure you that this is what happens all too often.

One way of accomplishing our goals in the legislature is to provide support to candidates during the election. This can be in the form of money for campaign expenses or helping to do work in the campaign. Legislators are only human and they are going to support the people who help them get elected. To do otherwise would be political suicide.

The Arkansas Medical Society State Legislative Fund was implemented years ago and it has been extremely helpful in providing dollars for campaigns. However, less than twenty-five percent of the physicians in Arkansas have seen fit to contribute to this fund.

The elections are over, the legislative session will soon begin. The question remains: Are you going to help fight the battles? Or are you going to read about the victories—and the defeats?

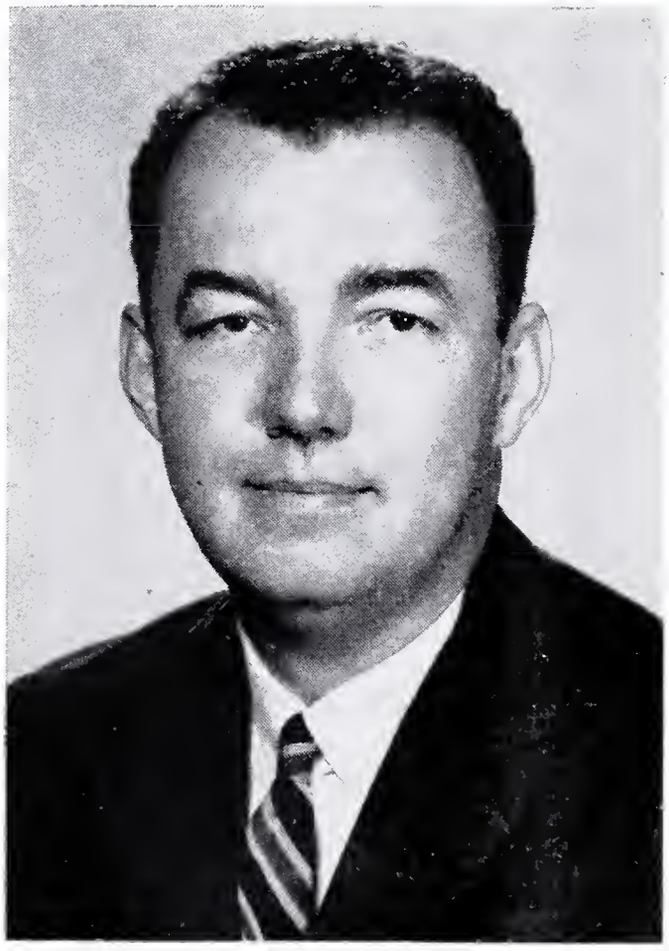
From Other Years

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

Calvin J. Dillaha, M.D.

G. Thomas Jansen, M.D.

Calvin J. Dillaha was born in Little Rock, Arkansas on June 20, 1924. He was a graduate of the University of Arkansas School of Medicine in 1948 and took his internship at Scott & White Hospital in Temple, Texas. Because of a personal illness and a subsequent severe drug reaction, he was inspired to seek a career in Dermatology and was accepted for this training at the University of Chicago, Department of Dermatology, where he trained from 1949 to 1952. His professor at Chicago was Steven Rothman, long recognized for his ability as a pathophysiology in skin disease and the excellent training he offered to people in investigative dermatology.



Doctor Dillaha loved Arkansas and the University of Arkansas Medical Center. He had a dream of developing a more aggressive teaching program at the University and finally a graduate training program in dermatology at the University. Upon his return to Little Rock he opened a private office and later was associated with G. Thomas Jansen and W. Mage Honeycutt. He served first as an Instructor in Clinical Medicine (Dermatology) and finally was made Professor and Head of the Department of Dermatology at the Univer-

sity of Arkansas Medical Science Campus and the Consolidated V. A. Hospital.

Doctor Dillaha's primary accomplishments in addition to the development to the program at the University consisted of his work in the brown recluse spider and the characterization of its venom. In addition, he was instrumental with his associates in private practice in developing 5-Fluorouracil as a topical application in the treatment of actinic keratoses. The state of Arkansas lost an ambitious young man whose life ended too soon when he died on January 9, 1969.

Dr. Jansen is a Dermatologist practicing in Little Rock.

Journal of the Arkansas Medical Society
Vol. 1 No. 3 15 Aug., 1904 p. 3

NEWS ITEMS.

Dr. Orvis Biggs, of St. Louis, has located in Hot Springs.

Dr. J. H. Lenow has returned from New York, where he has been for the past month.

Dr. P. E. Terry, of Brinkley, has been elected physician to the lodge of Eagles of that place.

Dr. E. E. Ellis, of Hot Springs, has been before the police court on a charge of doctor drumming. Outcome of the case not known.

Dr. W. B. Hughes (homeopath), who has been abroad for some time, has returned to his home in Little Rock and will resume his practice.

Dr. Mayfield, while in a barn at Fayetteville a few weeks ago, received an electric shock during a passing thunder storm. Extent of injury not given.

Dr. L. R. Stark, of Little Rock, professor of gynecology in the Medical Department of the Arkansas University, left July 22 with his wife for the seashore for the benefit of Mrs. Stark's health.

Dr. J. Hyde Pratt, the government agent, who has been in Hot Springs collecting data for an original radium test, returned to New Haven July 16. He secured large quantities of very carefully selected water and shipped it ahead. When this test is made, the much discussed question of radioactivity in the waters of the Hot Springs will be settled.

County Physician W. P. Illing of Pulaski County reports that there are at this time, July 25, eighteen cases of smallpox in the pest-house near the county hospital, of whom sixteen belong to North Little Rock. All are getting along well and there have been no more new cases and no deaths. He thinks that if conditions continue favorable all will be sufficiently recovered in ten days to be discharged.

Dr. St. Cloud Cooper (councillor Tenth District), writes for the secretary to send matter on medical organization to Dr. J. E. Martin, of Hindsville. We hope he will succeed in organizing a good society in old Madison. We send the Doctor twenty copies of Dr. McCormack's address on "Medical Organization," delivered at Jonesboro, 1903, twenty copies of the Bulletin, a few copies of the constitution and by-laws, for both state and county, in reprint form, by the A. M. A., suggesting that he mail the addresses and Bulletins to the physicians that would be likely to join a medical society. We also send blanks for roster of officers and members, that the secretary may make report.

C. C. S.

MEDICINE IN THE NEWS



AAMD TO OFFER MANAGEMENT EDUCATION SCHOLARSHIPS

The American Academy of Medical Directors (AAMD) has announced that in 1987 it will offer two scholarships worth approximately $3,000 each to physicians to attend management education programs. The scholarships will be awarded to physicians employed by health care organizations that provide service in areas that are medically underserved or that rely predominantly on public or charitable funding.

The program's intent is to promote management development and training within organizations that do not typically have funds available for their physician managers to acquire management training.

Each scholarship includes tuition and per diem for three weeks of management training at programs designated by the AAMD. Applicants must submit a letter of intent by January 10, 1987 which shows that a need for the scholarship does exist because funding for management training or education is not available with the organization, indicates how the training will be beneficial to the physician as well as the organization, and show that the organization is predominantly or entirely supported by public or charitable funds (i.e., indicate percentage of total income received from federal, state or charitable sources).

To be considered as a recipient of the scholarship, the applicant must be employed by an organization that is a government agency or had qualified for tax exemption under Section 501(c)(3) of the U. S. Internal Revenue Code and not be a private foundation as defined under Section 509(a).

The AAMD will select final candidates for review by January 30, 1987, and will request all finalists to submit a detailed proposal on or before February 20, 1987. Both scholarships will be awarded in March.

ASIM LAUNCHES "GOOD HEALTH VS. TOBACCO WEALTH" CAMPAIGN

The American Society of Internal Medicine (ASIM) recently announced a grass-roots public awareness campaign about the millions of dollars the federal government spends on protecting the tobacco industry *and* the millions of dollars it spends to produce studies which show the harmful effects of tobacco, as well as the billions of dollars spent through Medicare and Medicaid to treat tobacco-related diseases.

"Each day in our practices, I, and internists across the country, see the devastating toll tobacco use takes on our patients. It's time we ask our elected leaders to be accountable for their stances on tobacco issues," said T. Reginald Harris, president of ASIM, and a practicing internist and pulmonary disease specialist in North Carolina, the nation's leading tobacco-producing state.

ASIM is asking that elected officials at all levels of government, and those up for election, support a nine-point legislative agenda to end government "schizophrenia" on tobacco, dissuade the young from using tobacco; and recognize nonsmokers' right to breathe smoke-free air.

The agenda ASIM would like government officials to support includes raising the excise tax on tobacco products, eliminating tobacco subsidies, stronger warnings on tobacco products, banning advertising/promotion or eliminating its tax deductability as a business expense. They would also like to ban vending machines, distribution of free cigarette samples, and smoking in schools. Finally, they would like officials to raise the legal age limit for smoking to 21 and restrict smoking to designated smoking area in all public building and restaurants.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

CHEST CONFERENCE

Presented by William Stead, M.D., *January 21, 1987, 12:30 p.m. luncheon.* One hour Category I credit. St. Michael Hospital, Texarkana. Sponsored by AHEC-Southwest.

CARDIOLOGY SEMINAR

February 21, 1987. Sponsored by the Baptist Medical Center. More information to be announced.

GOLD THERAPY IN TREATING ARTHRITIS

Presented by Frederick Wolfe, M.D., Kansas City University School of Medicine, Wichita, KS. Two hours Category I credit. Education Building, Baxter County Regional Hospital, Mountain Home, AR. Sponsored by the Baxter County Regional Hospital.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one or two hours Category I credit.

EL DORADO — AHEC

Behavioral Sciences Conference, first and fourth Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:00 p.m., Warner Brown Hospital.
Gynecology-Pathology Conference, second Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Pathology Conference, second Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Obstetrics-Gynecology Conference, fourth Thursday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Surgical Conference, first, second, and third Monday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Tumor Clinic, fourth Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.

FAYETTEVILLE — AHEC-NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Medical Conference, each Wednesday, 11:30 a.m., Conference Room, Building 1, VAMC.

FORT SMITH — AHEC

Cardiology Conference, first Wednesday, 12:30 p.m., Sparks Regional Medical Center.
Dermatology Conference, first Thursday, 12:30 p.m., Sparks Regional Medical Center, Library.
Family Practice Conference, third Wednesday, 12:30 p.m., Sparks Regional Medical Center, Library.
Gastroenterology Conference, first Friday, 12:30 p.m., Sparks Regional Medical Center, Library.
Neurology Conference, second Thursday, 12:30 p.m., Sparks Regional Medical Center.
Obstetrical/Gynecology Conference, third Thursday, 12:30 p.m., Sparks Regional Medical Center, Library.
Thoracic/Cardiovascular Conference, third Thursday, 12:30 p.m., Sparks Regional Medical Center, Library.

JONESBORO — AHEC-NORTHEAST

AHEC Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Chest Conference, second Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Independence County Medical Society Conference, second Wednesday, 7:00 p.m., White River Medical Center, Batesville.
Interesting Case Conference, fourth and fifth Tuesday, when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Kennett Tumor Conference, second Tuesday, alternating months beginning with December, 1986, Twin Rivers Regional Medical Center, Kennett, MO.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Cafeteria, Methodist Hospital of Jonesboro.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Newport Tumor Conference, second Wednesday, 12:00 noon, Lucy Lee Hospital, Poplar Bluff.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Poplar Bluff Tumor Conference, third Wednesday, 12:00 noon, Lucy Lee Hospital, Poplar Bluff.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Alternating Sub-Specialty Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
General Pediatrics Seminar, first and third Friday, 12:00 noon, Second Floor Classroom.
Genetics Conference, each Wednesday, 12:00 noon, ACH Clinic Conference Room.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Oncology Conference, third Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Pediatric Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.

Pediatric Neuroscience Conference, first Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Pharmacology Conference, fifth Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Radiology Conference, first and third Thursday, 12:00 noon, Second Floor Classroom.
Pediatric Research Conference, third Monday, 12:00 noon, Second Floor Classroom.
Problem Case Conference, second and fourth Friday, 12:00 noon, Second Floor Classroom.
Respiratory Care Case Conference, each Monday, 3:00 p.m., Second Floor Classroom.

LITTLE ROCK — ST. VINCENT INFIRMARY

Cancer Conference, first Wednesday, 12:00 noon, CARTI Auditorium. A meal is provided.
Cancer Conference, third and fourth Thursday, 12:00 noon, Room S1174K, Laboratory. A meal is provided.
General Medicine Journal Club, first and third Tuesday, 12:00 noon, Medical Affairs Conference Room. Bring your lunch.
Hematology-Oncology Conference, second Thursday, 12:00 noon, Laboratory Library. A meal is provided.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m., Classroom 1, Education Wing. Refreshments are provided.
Neuropathology Conference, third Tuesday, 5:00 p.m., Room S1174K, Laboratory. Refreshments are provided.
Pediatric Conference, first Tuesday, 12:30 p.m., Classroom 1, Education Wing. A meal is provided.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m., Classroom 1, Education Wing. A meal is provided.
Pulmonary Conference, second and fourth Wednesday, 12:00 noon, Classroom 1, Education Wing. A meal is provided.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Anesthesia Lecture Series, each Tuesday, 7:00 a.m.; each Wednesday, 4:00 p.m., UAMS Education Building, Room G/106.
Anesthesia Morbidity and Mortality Conference, each Thursday, 4:00 p.m., UAMS Education Building, Room G/106.
GI Basic Science Conference, each Thursday, 7:30 a.m., UAMS Education Building, Room G/108A&B.
Interdisciplinary Gynecologic Cancer Conference, each Friday, 12:30 p.m., UAMS Education Building, Room G206A&B.
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.
Medicine Research Conference, each Tuesday, 8:00 a.m., UAMS Shorey Building, Room 8/105.
OB/Gyn Grand Rounds, each Wednesday, 7:30 a.m., UAMS Education Building, Room G/141B.
Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m., UAMS AAC Eye Clinic, Room 3/150. 2 hours credit.
Orthopaedic Fracture Conference, each Tuesday, 7:30 a.m., UAMS Education Building, Room B/135.
Orthopedic Basic Science Conference, each Tuesday, 11:00 a.m., UAMS Education Building, Room B/135.
Orthopaedic Bibliography Conference, each Tuesday, 8:30 a.m., UAMS Education Building, Room B/135. 1½ hours credit.
Orthopaedic Grand Rounds, each Tuesday, 10:00 a.m., UAMS Education Building, Room B/135.
Psychiatry Grand Rounds, each Friday, 11:00 a.m., UAMS Shorey Auditorium.
St. Vincent Urology Grand Rounds, first Tuesday, 5:30 p.m., St. Vincent Infirmary, Education Building, Room 159.
Surgery Grand Rounds, each Saturday, 8:00 a.m., UAMS Education Building, Room G/131.
Surgical Science Conference, each Tuesday, 11:00 a.m., UAMS Education Building, Room G/131.
Urology Grand Rounds/Urologic Topics, two to three times monthly (each), 5:00 p.m., UAMS or VAMC.
Urology Morbidity and Mortality Workshop/Uro-Radiology Workshop, once monthly, 5:00 p.m., UAMS (dates vary).
VA Medical Service Teaching Conference, each Thursday, 8:00 a.m., NLRVA, Building 66, Room 38.
VA Surgery Grand Rounds, each Thursday, 12:45 p.m., LRVA, Room 2D109.
VA Weekly Cancer Conference, (Surgical Service), each Tuesday, 1:00 p.m., LRVA, Room 2D109.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Anesthesiology Conference, third Thursday, 7:00 a.m., Conference Room 1.
Grand Rounds Conference, each Wednesday, 12:00 noon, Conference Room 1. Lectures and Case Presentations. A light lunch will be served.
Pathology Conference, third Tuesday, 3:00 p.m., Pathology Library, Case Presentations.
Pulmonary Conference, each Tuesday, 12:00 noon, Shuffield Auditorium. Lunch served for $1.75.
Surgery Conference, each Thursday, 7:30 a.m., Conference Room 2. Lectures and Case Presentations.

PINE BLUFF — AHEC

Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC

Chest Conference, third Wednesday, 12:30 p.m., St. Michael Hospital.
Neuro-Radiology Conference, second and fourth Wednesday, 7:00 a.m. breakfast, Wadley Regional Medical Center.
Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.

As organizations accredited for continuing medical education by the Accrediation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

THINGS TO COME

January 12-16

Neurodiagnostic Imaging. Sponsored by the University of California, San Francisco. Hyatt Regency Hotel, San Francisco. 40 Category I hours available. Fee: $495 for physicians, $395 for residents, technologists and nurses with a letter of verification. For more information contact: Radiology Postgraduate Education, University of California, Room C324, Third and Parnassus, San Francisco, CA 94143; (415) 476-5731.

January 18-24

Legal Medicine: The New Solution. Sponsored by the University of Kansas Medical Center. Puetro Vallerta, Mexico. 16 Category I AMA, AAFP credit hours available. For more information contact: Ellen Buttron, University of Kansas Medical Center, 39th and Rainbow Boulevard, Kansas City, KS 66103; (913) 588-4494.

January 19-23

Diagnostic Radiology Seminar. Sponsored by the University of California, San Francisco. Camino Real, Ixtapa, Mexico. 22 hours Category I credit; 22 ECE points for technologists. Fee: $495 for physicians; $395 for residents, fellows, nurses, and technologists with letter of verification. For further information contact: Radiology Postgraduate Education, University of California, Room C324, Third & Parnassus, San Francisco, CA 94143; (415) 476-5731.

January 28-29

Advanced Cardiac Life Support Provider Course. Sponsored by the University of Kansas Medical Center. University of Kansas Medical Center, Kansas City, Kansas. 13.5 Category I credit hours. Fee: $200.00 physicians; $90.00 Nurses, MICT's and others. For more information contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, Office of Continuing Education, 39th and Rainbow Blvd., Kansas City, KS 66103; (913) 588-4488.

February 1-6

Diagnostic Radiology Seminar. Sponsored by the University of California, San Francisco. The Gant, Aspen, Colorado. 24½ AMA Category I credit hours; 24½ ECE points for technologists. Fee: $495 for physicians; $395 for residents, fellows, nurses, and technologists with letter of verification. For further information contact: Radiology Postgraduate Education, Room C324, University of California, Third & Parnassus, San Francisco, CA 94143; (415) 476-5731.

February 22-27

Eighteenth Family Medicine Review. Sponsored by the University of Kentucky, College of Medicine. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit hours available. For more information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, KY 50536; (606) 233-5161.

February 22-27

Diagnostic Imaging: Update 1987. Sponsored by the University of California, San Francisco. Shadow Ridge, Park City, Utah. 23½ hours AMA Category I credit hours; 23½ ECE points for technologists. Fee: $495 for physicians; $395 for residents, fellows, nurses, and technologists with letter of verification. For further information contact: Radiology Postgraduate Education, University of California, Room C324, Third & Parnassus, San Francisco, CA; (415) 476-5731.

February-April 1987

Twenty-Eighth Annual Postgraduate Institute for Pathologists in Clinical Cytopathology. Sponsored by the Johns Hopkins University School of Medicine. *February through April 1987, Home Study Course A* is provided each registrant for personal reading and microscopic study at their own laboratory in preparation for Course B; and *April 27 to May 8, 1987 Course B* is a concentrated lecture series, laboratory studies and clinical experience at the Johns Hopkins Medical Institutions, Baltimore, Maryland. 152 AMA Category I hours—must take both courses to receive credit. For more information contact: John K. Frost, M.D., 604 Pathology Building, The Johns Hopkins Hospital, Baltimore, Maryland, 21205; (301) 955-3522.

March 1-7

Internal Medicine Symposium. Sponsored by the University of Kansas Medical Center. Cancun, Mexico. 10 Category I credit hours. For further information contact: Eileen Buttron, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd.,

Kansas City, KS 66103; (913) 588-4494.

March 3-13

Hawaii 87: Critical Issues in Primary Care. Sponsored by the Pacific Institute of Continuing Medical Education and the Hawaii Medical Association. Waiohai Hotel, Poipu Beach, Kauai, Hawaii. 20 Category 1 credit hours. For more information contact: Ms. Valerie Murray, The Pacific Institute of Continuing Medical Education, Post Office Box 1059, Koloa, Hawaii 96756; (808) 742-7471.

March 7-8

Breast Imaging Update. Sponsored by the University of California, San Francisco. Fairmont Hotel, San Francisco. 13 hours Category 1 credit available. Fee: $295 for physicians. $195 for residents, fellows, technologists and nurses with letter of verification. For further information contact: Radiology Postgraduate Education, Room C324, University of California, Third and Parnassus, San Francisco, CA 94143; (415) 476-5731.

March 8-13

Annual Meeting of the United States-Canadian Division of the International Academy of Pathology. Palmer House, Chicago, Illinois. Scientific papers, poster sessions, specialty conferences, 44 short courses, 2 special courses and a long course will be presented. Three Category I credit hours for each course attended. For further information, contact: Dr. Nathan Kaufman, Secretary-Treasurer, United States-Canadian Division of the International Academy of Pathology, Building C, Suite B, 3515 Wheeler Road, Augusta, GA 30909; (404) 733-7550.

March 9-13

Thirtieth Annual Postgraduate Course in Diagnostic Radiology. Sponsored by the University of California, San Francisco. Fairmont Hotel, San Francisco. 34 hours Category 1 credit available. Fee: $495 for physicians, $395 for residents, fellows, nurses and technologists. For further information contact: Radiology Postgraduate Education, University of California, Third and Parnassus, Room C324, San Francisco, CA 94143; (415) 476-5731.

March 16-20

Multimodality Radiology Relevant to Clinical Practice. Sponsored by the University of California, San Francisco. Waiohai Hotel, Poipu Beach, Kauai, Hawaii. 24 Category I credit hours available for physicians; 24 contact hours for nurses if they attend the entire program; 24 ECE points for technologists. Fee: $495.00 for physicians; $395.00 for residents, fellows, technologists and nurses with letter of verification. For more information contact: Radiology Postgraduate Education, University of California, Third & Parnassus, Room C324, San Francisco, CA 94143; (415) 476-5731.

March 18-21

Third National Leukemia Society Medical Symposium. Sponsored by the Leukemia Society of America. San Diego, California, Town and Country Hotel. 17 Category 1 credit hours for physicians; 20.7 contact hours for nurses. For more information, contact: Leukemia Society of America, 733 Third Avenue, New York, New York 10017; (212) 573-8484.

April 10-11

Hypertension: New Directions. Sponsored by the University of Kentucky. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit available. For further information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, KY 50536; (606) 233-5161.

April 10-12

Contact Lens Workshop. Sponsored by the University of Kentucky. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit available. For further information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, KY 50536; (606) 233-5161.

April 9-11

Thoracic Imaging Update. Sponsored by the University of California, San Francisco. Monterey, California. 13 hours Category I credit available. Fee: $295 for physicians, $195 for residents, fellows, technologists and nurses with letter of verification. For further information contact: Radiology Postgraduate Education, Room C324, University of California, Third and Parnassus, San Francisco, CA 94143; (415) 476-5731.

April 11-12

Ob/Gyn and Abdominal Sonography: Update 1987. Sponsored by the University of California, San Francisco. Hyatt Union Square Hotel, San Francisco. 14½ hours Category I credit available. Fee: $325 for physicians, $225 for residents,

fellows, technologists and nurses with letter of verification. For further information contact: Radiology Postgraduate Education, Room C324, University of California, Third and Parnassus, San Francisco, CA 94143; (415) 476-5731.

April 22-25

Symposium on Options in Managing Children with Infections and Sixth Annual Pediatric Infectious Disease Seminar. Sponsored by the University of Texas Health Sciences Center, Department of Pediatrics. Las Vegas Hilton Hotel, Las Vegas, Nevada. 22 Category I credit hours, 19 PREP credits and 18.75 prescribed hours AAFP. Fee: $300.00 physicians; $225.00 residents, fellows, PA's and PNP's. For more information contact: Marian Troup, Seminar Coordinator, University of Texas Health Sciences Center, 5323 Harry Hines Blvd., Dallas, TX 75235; (214) 688-3439.

April 22-26

Comprehensive Review Course in Critical Care Medicine. Sponsored by the Center for Bio-Medical Communication and the George Washington University School of Medicine. Bethesda, Maryland. 31 Category I credit hours. Fee: $550.00 includes tuition, course materials and bibliography. For further information contact: The Center for Bio-Medical Communication, 491 Grand Avenue, Englewood, NJ 07631; (201) 568-9381.

April 24-25

Contemporary Pediatrics for the Practicing Physician. Sponsored by the University of Kentucky. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit available. For further information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, KY 50536; (606) 233-5161.

April 25

Anticoagulant and Antithrombotic Therapy: State of the Art. Sponsored by the University of Kansas. Category I credit available. For further information contact: Eileen Buttron, University of Kansas Medical Center, Office of Continuing Education, 39th and Rainbow Blvd., Kansas City, KS 66103; (913) 588-4480.

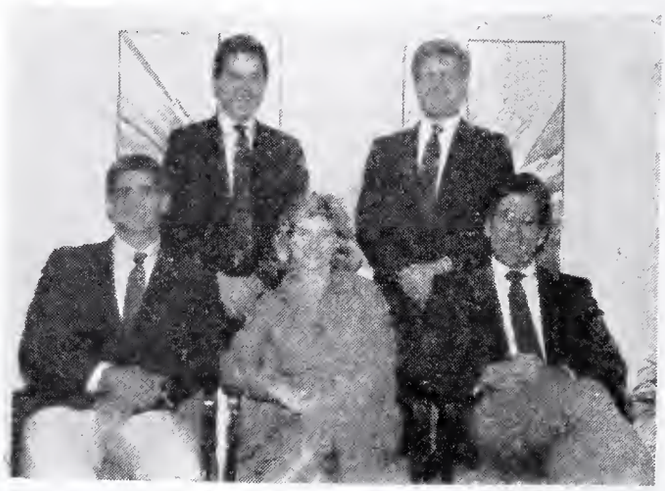
April 25-26

Transurethral Ureteroscopy: A Seminar and Workshop. Sponsored by the University of California, San Diego. La Jolla Marriott, San Diego, California. 13 Category I credit hours. Fee: $375.00. For more information contact: Office of Continuing Medical Education, M-017 UC San Diego School of Medicine, La Jolla, CA 92093; (619) 534-3940 or (619) 452-3940.

RESIDENT PHYSICIAN NEWS

At the last meeting of the Resident Physicians Section of the Arkansas Medical Society, the members elected officers. The Resident Physician Section will begin a membership drive in early December. The drive will include discussions with residents of differing specialties in order to obtain views and perspectives on resident problems. All residents will be targeted during the drive, including AHEC residents outside the Little Rock area. The initial membership drive will include receptions, a publicity drive, and initial "free" membership to the Arkansas Medical Society.

Dr. Elicia Sinor, Vice President, and Dr. Todd Holt, President, will attend the American Medical Association Conference in Las Vegas, Nevada in December. This will be Arkansas' first time to be represented at the national level.



The newly elected officers of the Resident Physician Section of the Arkansas Medical Society. Standing, left to right: Todd N. Holt, M.D., Emergency Medicine President, and David Halinski, M.D., Delegate, Transitional Intern. Seated, left to right: Chuck Mason, M.D., Alternate Delegate, Emergency Medicine; Elicia Sinor, Vice President, Emergency Medicine; Hershal Garner, J.D., M.D., AMS Delegate, Radiation Oncology. Not pictured is Don Phillips, M.D., Secretary, Obstetrics/Gynecology.



NEW MEMBERS

Bowie-Miller County Medical Society

Cutler, Otis E., Emergency Medicine, Texarkana, TX. Born Dallas, TX, April 24, 1935. Premedical education St. Edwards University, Austin, B.S., 1959 and University of Arkansas, M.S., 1962. Medical education, University of Arkansas for Medical Sciences, 1965. Internship, Arkansas Baptist Medical Center, Little Rock. Residency, Radiology, two years, Arkansas Baptist Medical Center, Little Rock. Private practice, Little Rock, 1966-1973; Austin, 1973-1983; Texarkana, 1982 to present.

Graham, John W., Internal Medicine, Texarkana, TX. Born Midland, TX, December 18, 1953. Pre-medical education, University of Texas, Austin, B.S., 1977. Medical education, University of Texas Health Sciences Center program, San Antonio, 1982. Internship and Residency, University of Texas Affiliated Hospitals, San Antonio. U. S. Marine Corps, 1972-1974. Teaching appointment, University of Texas Health Sciences Center, San Antonio, Department of Medicine, 1985-1986. Member, Texas Medical Association, American Medical Association, American College of Physicians. Board certified, Internal Medicine.

Mayo, Russell E., Family Practice, Texarkana, AR. Born Borger, TX, December 14, 1956. Premedical education, University of Arkansas, Monticello, B.S., 1979. Medical education, University of Arkansas for Medical Sciences, 1983. Internship, Union Medical/Warner Brown Hospital, El Dorado. Residency, Family Practice Residency Program, AHEC, El Dorado. Member, American Academy of Family Practice Physicians, Arkansas Academy of Family Physicians. Member, Union County Medical Society. Board certified, Family Practice.

Shaffer, William L., Internal Medicine and Nephrology, Texarkana, AR. Born Corpus Chirsti, TX, December 17, 1955. Pre-medical education University of Texas, Austin. Medical education, University of Texas Medical Branch Hospitals, Galveston, 1981. Internship and Residency, Internal Medicine, University of Texas Medical Branch Hospitals, Galveston. Member, Texas Medical Association and American Medical Association.

Craighead-Poinsett County Medical Society

Cook, John Clyde, General, Thoracic and Vascular Surgery, Jonesboro. Born Batesville, AR, May 12, 1951. Pre-medical education, Arkansas State University, B.S., 1974. Medical education, University of Arkansas for Medical Sciences, 1981. Internship and Residency (General Surgery), Louisiana State University Hospital, Shreveport. Board eligible.

Emerson, Steven Lewis, Obstetrics/Gynecology, Jonesboro. Born Jonesboro, AR, December 14, 1955. Pre-med education, Arkansas State University, B.S., 1978. Medical education, University of Arkansas for Medical Sciences, 1982. Internship, University Hospital, Little Rock. Residency, Obstetrics/Gynecology, University Hospital, Little Rock. Junior Fellow, American College of Obstetricians and Gynecologists. Board eligible.

Saunders, Earnest L., Diagnostic and Intervention Radiology, Jonesboro. Born Harrisburg, AR, August 5, 1953. Pre-medical education, Arkansas State University, B.S., 1973. Medical education, University of Arkansas for Medical Sciences, 1977. Internship, Baylor Affiliated Hospital, Houston. Residency, University of Arkansas for Medical Sciences, Little Rock. Fellowship in Pediatric Radiology, University of Colorado. Member, American College of Radiologists. General practice 1978-1981, Manila, AR. Radiology practice, 1985 to present, Methodist Hospital, Jonesboro. Board Certified, Radiology.

Tonyman, Kenneth, Neurology, Jonesboro. Born Houston, TX, August 22, 1953. Pre-medical education, University of Missouri, Kansas City, B.A. Medical education, University of Arkansas for Medical Sciences, 1979. Internship, University of Arkansas for Medical Sciences. Residency, General Surgery, University of Arkansas for Medical Sciences and Neurosurgery, University of Arkansas for Medical Sciences. Member of Congress of

Neurological Surgeons. Private practice, July, 1986 to present.

Tullis, **Gene Edward,** Thoracic and Cardiovascular Surgery, Jonesboro. Born Salem, OH, July 17, 1950. Pre-medical education, Ohio State University and Kent State University, B.S., 1976. Medical education, Ohio State University, 1979. Residencies, General Surgery, St. Joseph Hospital, Denver and Cardiothoracic Surgery, Allegheny General Hospital, Pittsburgh. U. S. Air Force 1970-1974. Candidate Member, American College of Surgeons. Member, College of Chest Physicians. Board certified, Surgery.

Jefferson County Medical Society

Fendley, Herbert F., Internal Medicine/Family Practice, Pine Bluff. Born Leslie, AR, March 1, 1946. Pre-medical education, Arkansas State Teachers College, Conway, B.A., 1964 and University of Arkansas, Fayetteville, M.S., 1967. Medical education University of Arkansas for Medical Sciences, 1971. Internship, University of Chicago Hospitals and Clinics, Chicago. Residencies, Internal Medicine, Los Angeles County, University of Southern California, Los Angeles and Internal Medicine, Cedars-Sinai Medical Center, Los Angeles. Began practice 1975. Member American Academy of Family Physicians. Board certified.

Jones, Theodore Benjamin, Obstetrics/Gynecology, Pine Bluff. Born Richmond, VA, June 22, 1956. Pre-medical education, Morehouse College, B.S., 1978. Medical education, Temple University, 1982. Internship, Baylor University Medical Center, Dallas. Residency, Baylor University Medical Center, Dallas. Junior Fellow, American College of Obstetricians and Gynecologists. Board eligible.

Lupo, David A., Urology, Pine Bluff. Born Pine Bluff, AR, December 28, 1954. Pre-medical education, University of Arkansas, Fayetteville, B.A., 1976. Medical education, University of Arkansas for Medical Sciences, 1981. Internship, Surgery, Kansas University Medical Center, Kansas City. Residency, Urology, Kansas University Medical Center. Board eligible.

Schuller, Hans Everard, Pulmonary Diseases, Pine Bluff. Born Paree, Indonesia, May 2, 1955. Pre-medical education, Louisiana Tech University, Ruston, LA, B.S., 1977. Medical education, Louisiana State University School of Medicine, New Orleans, LA, 1981. Internship and Residency, Internal Medicine, Charity Hospital of New Orleans. Fellowship, Tulane University, Pulmonary Diseases, 1986. Member American College of Physicians, American Thoracic Society, American College of Chest Physicians. Board certified, Internal Medicine. Board eligible, Pulmonary Medicine.

Pulaski County Medical Society

Fletcher, Anthony Maurice, Cardiology, Little Rock. Born Steubenville, OH, October 7, 1954. Pre-medical education, Xavier University, Cincinnati, B.S., 1976. Medical education, University of Cincinnati, 1980. Internship, Internal Medicine, George Washington University, Washington, D. C. Residency, Cardiology, Georgetown University, Washington, D. C.

Murphy, Jeanne Ann, Internal Medicine, Little Rock. Born High Point, NC, May 17, 1952. Pre-medical education, University of Arkansas at Little Rock, B.S. 1975. Medical education, University of Arkansas for Medical Sciences, 1983. Internship and Residency, Internal Medicine, University of Arkansas for Medical Sciences. Board eligible.

Waltman, Claire, Internal Medicine, College Station. Born Ruston, LA, October 7, 1951. Pre-medical education, Louisiana Tech University, Ruston, B.S. 1973. Medical education, Louisiana State University, Baton Rouge and Louisiana State University, Shreveport, 1983. Internship and Residency, Internal Medicine, University of Arkansas for Medical Sciences. Board eligible.

Sevier County Medical Society

Hoyt, Jonathan L., Internal Medicine, DeQueen. Born Little Rock, AR, November 23, 1956. Pre-medical education, Hendrix College, B.A., 1979. Medical education, University of Arkansas for Medical Sciences, 1983. Internship and Residency, Louisiana State University, Shreveport. Member, Southern Medical Association. Board eligible.

Washington County Medical Society

Brown, David L., Neurology, Fayetteville. Born Pocahontas, AR, November 24, 1950. Pre-medical education, Arkansas State University, B.S., 1973. Medical education, University of Arkansas for Medical Sciences, 1977. Internship, Fort Benning,

GA. Residency, Walter Reed Army Medical Center. U. S. Army 1977-1985. Member, American Academy of Neurologists. Board certified.

Hui, Anthony Nai-Kit, Pathology, Fayetteville. Born Swatow, People's Republic of China, August 18, 1951. Pre-medical education, University of Arkansas, Fayetteville, B.S., 1974. Medical education, University of Arkansas for Medical Sciences, 1978. Internship and Residency, Los Angeles County, University of Southern California Medical Center, Los Angeles, CA. Resident Supervisor 1982-1983. U. S. Navy 1983-1985. Teaching appointments, USC School of Medicine, Clinical Instructor, Pathology. UAMS, Clinical Instructor, Pathology. Member, College of American Pathologists, American Society of Clinical Pathologists. Board certified, Pathology.

Northum, Charles S., Anesthesiology, Fayetteville. Born Fort Smith, AR, October 31, 1936. Premedical education, Tulane University, B.S., 1957. Medical education, University of Arkansas for Medical Sciences, 1962. Internship, Erlanger Hospital, Chattanooga, TN. Residency, Anesthesiology, Hermann Hospital, Houston. General Practice, Piggott, AR, 1965-1967; Anesthesiology, Ft. Smith, AR, 1969-1978; El Paso, TX, 1978-1985; Fayetteville, AR, 1985 to present. Member, American Society of Anesthesiologists. Board certified.

Pang, Robert Russell, Psychiatry, Fayetteville. Born Helena, AR, August 27, 1956. Pre-medical education, University of Arkansas at Little Rock, B.A., 1978. Medical education University of Arkansas for Medical Sciences, 1982. Internship, Maine Medical Center, Portland, ME. Residency, Psychiatry, Maine Medical Center, Portland, ME. Member American Psychiatric Association. Board eligible.



OBITUARY

DR. GILBERT WAYNE TAYLOR

Dr. Gilbert Wayne Taylor, aged 59, died Saturday, November 15, 1986. Dr. Gilbert was a family practice physician in Caraway (Craighead County).

Dr. Taylor graduated from Arkansas State University and obtained his medical degree from the University of Arkansas for Medical Sciences. He was a Fellow in the American Academy of Family Physicians and a retired Air Force colonel.

Dr. Taylor practiced for ten years in Leachville (Mississippi County) before moving to Jonesboro in 1971. From 1975-1977, he practiced at Hickam Air Force Base in Honolulu. Dr. Taylor returned to Jonesboro in 1977 and moved to Caraway in 1985.

Dr. Taylor was a member of the American Medical Association, the Arkansas Medical Society, the Craighead County Medical Society as well as the Southern Medical Society. Honorary pallbearers were members of the Craighead County Medical Society. He was a member of St. Mark's Episcopal Church at Jonesboro.

Dr. Taylor is survived by his widow, Jo Ann Taylor; a son, Lance Wayne Taylor of Jonesboro, and a daughter, Jodie T. Davis of Little Rock.

RESOLUTIONS



The following resolution was drawn up by the "Journal Club" to honor G. Thomas Jansen, M.D. for his outstanding accomplishments in the field of Dermatology. It was felt that the resolution and the man it honors deserve recognition in the Journal of the Arkansas Medical Society.

WHEREAS, "Journal Club" member, G. Thomas Jansen, M.D., has recently distinguished himself by having received two of the highest honors attainable in the field of dermatology, that of being named President of the American Board of Dermatology and more recently being elevated to the office of President-Elect of the American Academy of Dermatology; and

WHEREAS, Dr. Jansen's professional career has been marked for decades by his outstanding leadership in the medical profession, having served as President of the Pulaski County Medical Society; as President of the Southern Medical Association; and especially his service as Professor and Head of the Department of Dermatology at the University of Arkansas for Medical Sciences; and

WHEREAS, his unselfish services and distinctions favorably reflect upon those of us in the profession of medicine and in the specialty of dermatology,

BE IT THEREFORE RESOLVED, that the "Journal Club" request that the Arkansas Dermatological Society at its next meeting draft an appropriate resolution to be entered into the permanent archives of the Society; and that by this action it be made known to Dr. Jansen the feeling of pride his colleagues have for his outstanding leadership and our gratitude to him for his devotion to the specialty of dermatology.

William N. Jones, M.D.
On Behalf of the "Journal Club"

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Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of triamterene and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Angiotensin-converting enzyme (ACE) inhibitors can elevate serum potassium; use with caution with 'Dyazide'. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function. Thiazides may add to or potentiate the action of other antihypertensive drugs. Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema; transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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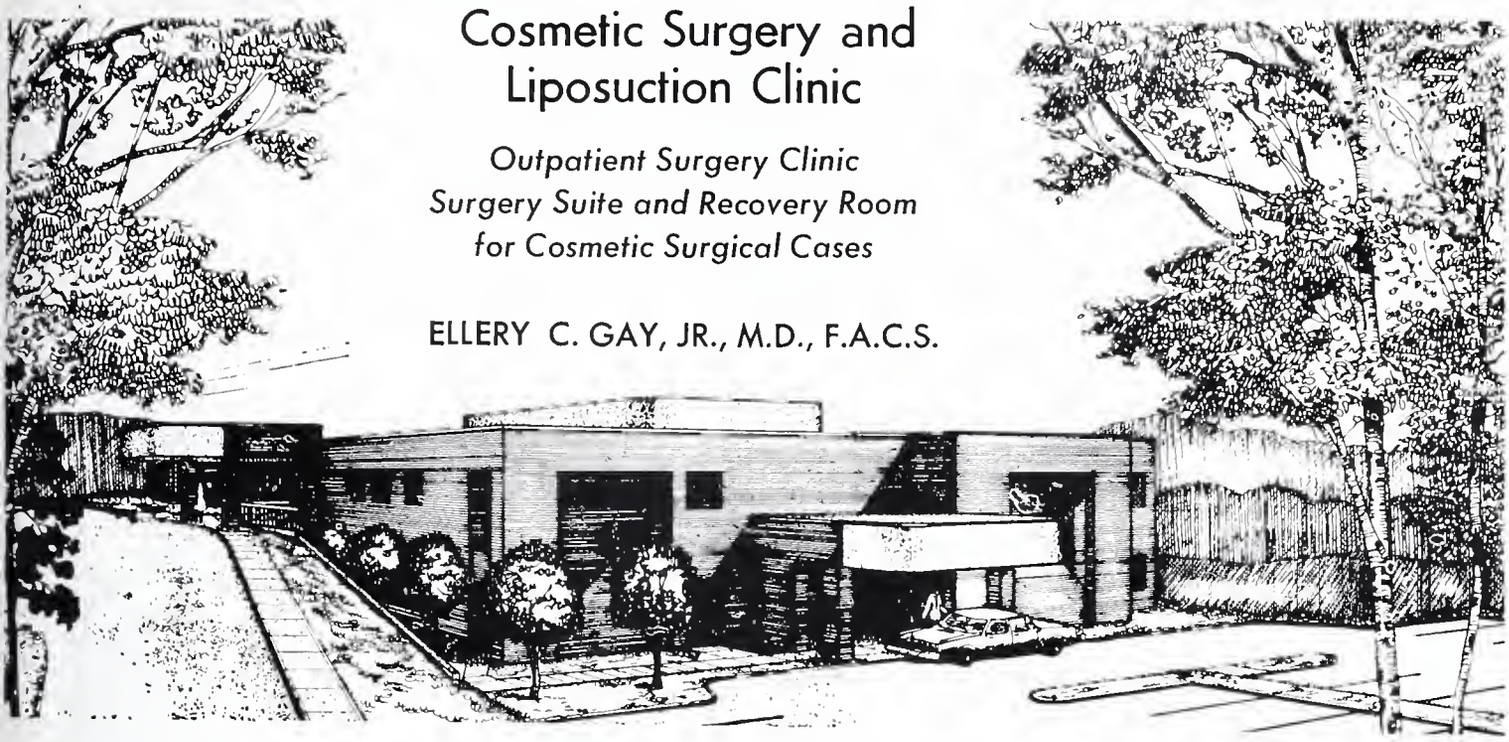
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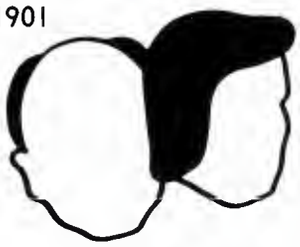
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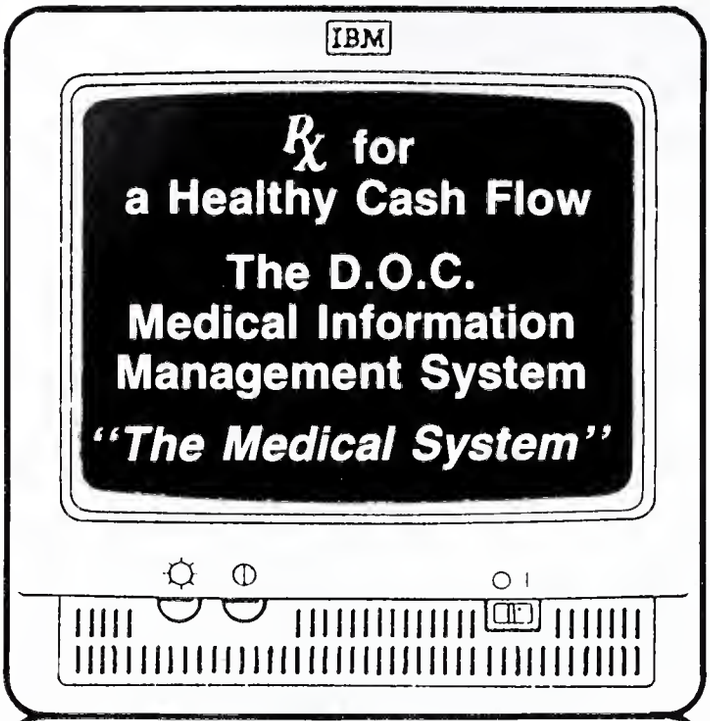
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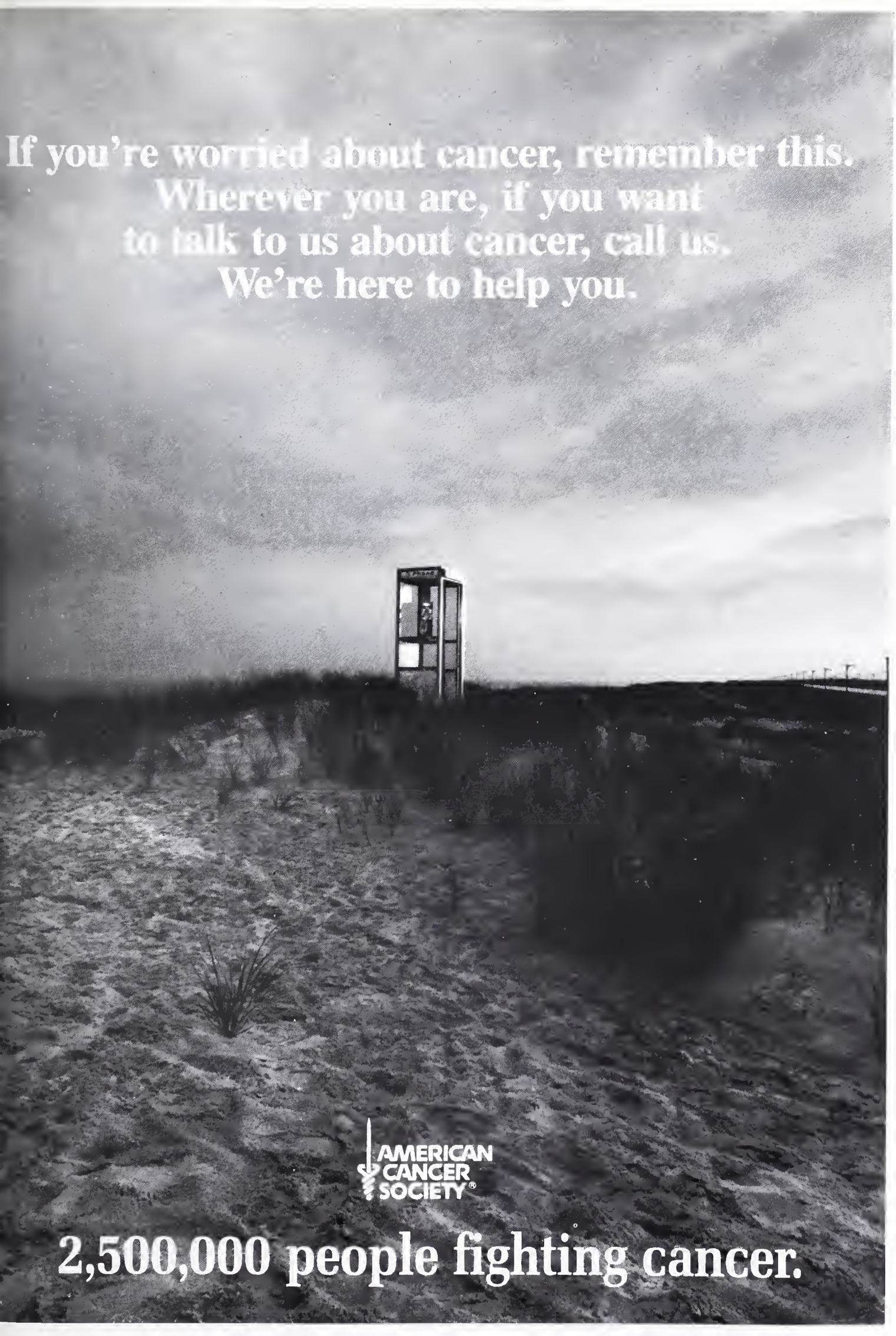
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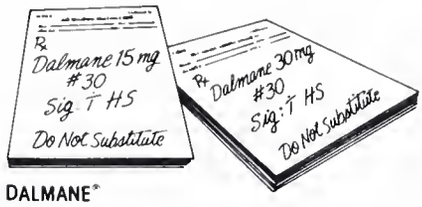
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SPECIAL IN THIS ISSUE

AMS Winter Meeting Proceedings 309
A Washington Update: AMA Vice President's Report 315

SCIENTIFIC

Coronary Angioplasty 319

ORTHOPEDIC TRENDS

Myth of the Non-Weightbearing Bone 327



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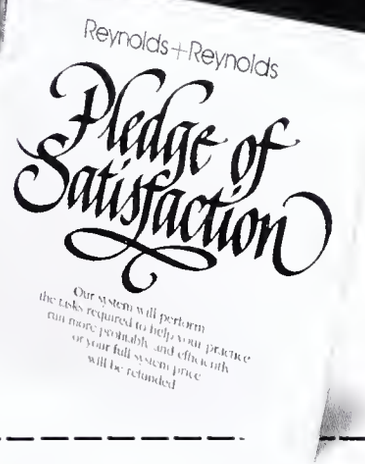
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Special Article: "Proceedings of the House of Delegates Meeting" 309

Special Report: "A Washington Update" 315
James H. Sammons, M.D.

SCIENTIFIC ARTICLES

Coronary Angioplasty: Current Strategies and Practice 319
Beverly H. Lorell, M.D., F.A.C.C.

Hyperbaric Oxygen Therapy in a Newborn Infant: A Case Presentation 325
Brian T. Dillon, M.D., Lloyd R. Warford, M.D., and Robert G. Vogel, D.D.S., M.D.

FEATURES

Orthopedic Trends: "The Myth of the Non-Weightbearing Bone" 327
Charles C. Schock, M.D.

ECG of the Month 330
Sam Daniel, M.D., and John W. Watson, M.D.

Cancer Management Problems: "Malignant Lymphoma" 331
S. William Ross, M.D.

Medicine in the News 333

Keeping Up 334

Things to Come 336

Resident Physician News 339

Personal and News Items 340

New Members 340

Obituary 342

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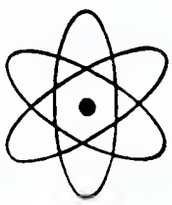
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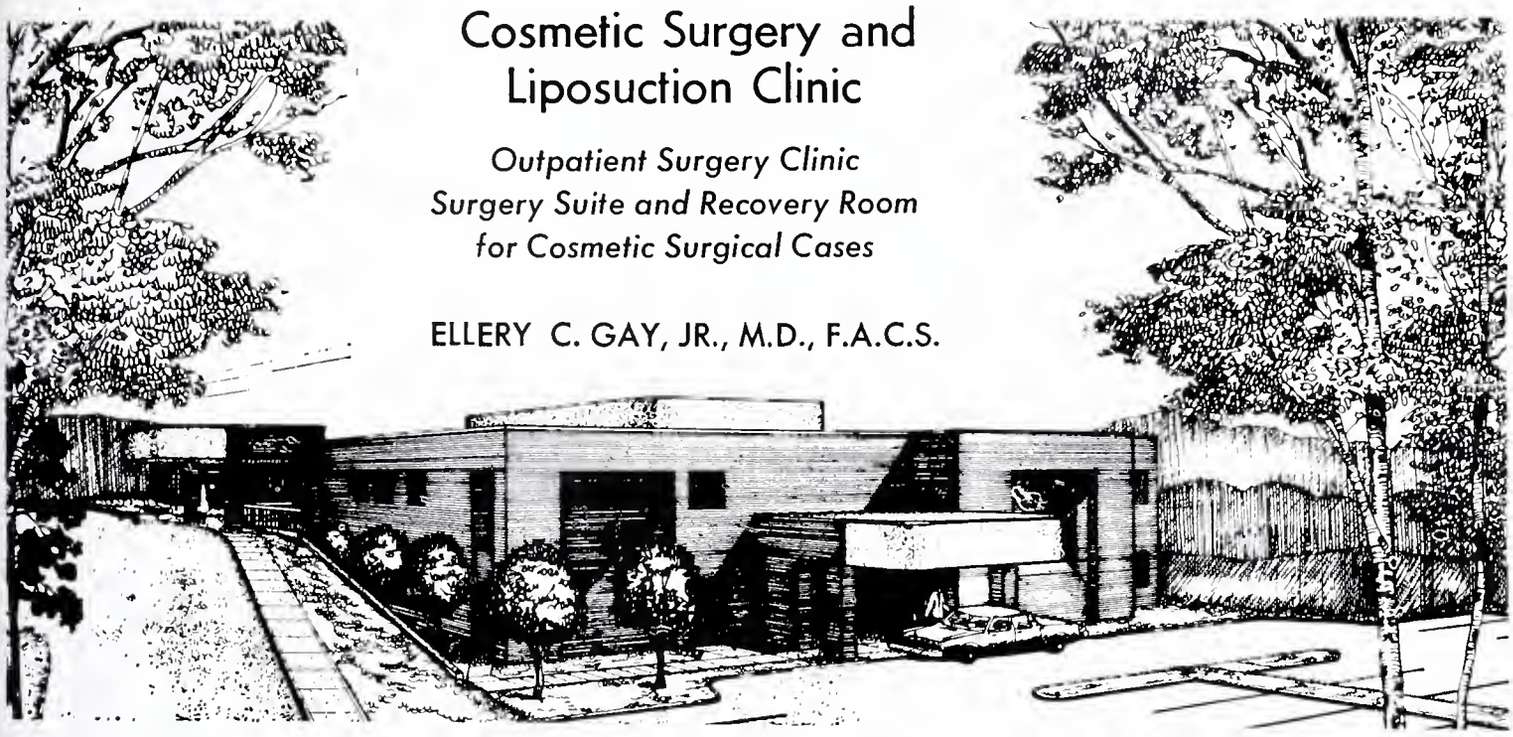
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Proceedings of the House of Delegates Meeting

Riverfront Hilton Inn
November 23, 1986

The House of Delegates of the Arkansas Medical Society met at 1:30 p.m., on Sunday, November 23, 1986. Members present were: CHAIRMAN OF THE COUNCIL, J. Larry Lawson; PRESIDENT, Ken Lilly; PRESIDENT-ELECT, Ray Jouett; SECRETARY, James Weber; IMMEDIATE PAST PRESIDENT, John Burge; TREASURER, James Kolb; SPEAKER OF THE HOUSE, Amail Chudy; VICE SPEAKER OF THE HOUSE, Sybil Hart; ARKANSAS, John Hestir; BAXTER, Robert Baker; BENTON, Richard Pearson; BOONE, H. V. Kirby, Robert Langston; CARROLL, Oliver Wallace; CLEBURNE, Thomas L. Eans; CHICOT, Danny Berry; CRITTENDEN, C. Herbert Taylor, Jr.; DREW, Paul Wallick; GARLAND, William Mashburn, Brenda Powell; GREENE-CLAY, Richard Martin; HEMPSTEAD, James W. Branch, Sr.; INDEPENDENCE, Jim Lytle; JEFFERSON, I. S. Reid, Jr., Lloyd Langston, Harold Hutson, John Crenshaw, George V. Robertson, Jr.; LITTLE RIVER, James Armstrong; MILLER, Donald L. Duncan, F. E. Joyce; MISSISSIPPI, Merrill Osborne; OUACHITA, Cal Sanders; PHILLIPS, L. J. P. Bell; POLK, David D. Fried; PULASKI, Warren Boop, Jr., R. Jerry Mann, Robert Shannon, Glen Baker, Charles Rodgers, William Golden, Fred O. Henker, Jay Brainard, Mayne Parker, Douglas Horan, Raymond Biondo, Kelsey Caplinger, William Jones, Paul Cornell, Warren Douglas, Payton Kolb, Harold Purdy; SEBASTIAN, A. C. Bradford, J. David Busby, Morton C. Wilson; ST. FRANCIS, Samuel A. McGuire, III; TRI-COUNTY, Michael Moody; VAN BUREN, John A. Hall; WASHINGTON, Mitch Singleton, David Rogers; WHITE, J. E. Bell; and YELL, James Pennington. PAST PRESIDENTS present were: A. E. Andrews, Asa Crow, Ross Fowler, Morriss Henry, C. C. Long, T. E. Townsend, Ben Saltzman, Purcell Smith, Jr., Joe Verser, Charles F. Wilkins, Jr.

Drs. Hershel Garner, Elicia Sinor, Todd Holt, and Don Phillips of the newly formed Resident Physician Section were also present. AMS staff present were Peggy Cryer, Ken LaMastus, and Mike Mitchell.

Dr. Ken Lilly, President of the Arkansas Medical Society, presented the charter of the Resident Physician Section to officers Dr. Todd N. Holt, President; Dr. Elicia Sinor, Vice President; Dr. Don Phillips, Secretary-Treasurer; Dr. Hershel Garner, Delegate to the Arkansas Medical Society; and Dr. Chuck Mason, Alternate Delegate. Dr. Todd Holt introduced the officers and expressed his appreciation on behalf of this section to the Arkansas Medical Society for allowing them to be a part of organized medicine and felt that it provided a great opportunity for yonng physicians. In introducing the other members he indicated that Dr. Don Phillips is an ob-gyn resident and Dr. Hershel Garner is also an attorney. Dr. Mason is an emergency medicine resident and could not be present. Dr. Holt said that we were entering an era of medicine where physicians were not in control of their destiny and they were anxions to work with the Medical Society.

Dr. Holt presented Dr. Lilly a plaque to be hung in the Society's conference room indicating the date the Resident Physician Section was founded and the founding members. Dr. Lilly stated that he hoped to see 300 resident physician members at the annual session meeting this spring.

Dr. Sybil Hart, Vice Speaker of the House of Delegates, introduced Dr. James R. Weber, Chairman of the Committee on Medical Legislation. Dr. Weber gave a report of his committee on pending legislation.

Dr. Weber thanked those in attendance for allowing him to speak and indicated that he hoped to give an overview of the issues to be faced

in the General Assembly this January. He also thanked all those physicians who contributed to the State Legislative Fund and those who have been, and continue to be, key contact persons and asked those in attendance to please fill out the forms provided concerning key contacts. He also thanked those who have served as "Physician of the Day" in the Legislature. He asked the physicians who will be coming to the Capitol as "Physician of the Day" to please bring some sample drugs from their office to use in the infirmary.

Dr. Weber stated that at this time the climate is one of economic problems, not only in the state government, but also for our patients and ourselves. In the public eye, cost continues to be the number one issue. Even though costs have slowed more now than in past years, the cost of health care is still increasing about three times faster than other items in the CPI. This is a great concern in business.

Tort reform stands out to be the number one issue facing physicians. Twenty-six states have passed major tort reform. The Arkansas Constitution prohibits the placing of caps on economic and noneconomic losses and a constitutional amendment would be required to change this.

Legislation will be proposed to raise taxes to support education and possibly to extend the sales tax to physician and other professional services.

Dr. Weber introduced Mr. Mike Mitchell, General Counsel of the Arkansas Medical Ssociety, and asked that he help with the report.

"Midterm law" would prevent an insurance carrier from terminating insurance in the middle of the policy without justifiable cause such as a change in risk or false statements at the time the policy was issued. The committee recommended support of this issue.

Alternative Dispute Resolution. Dr. Weber stated this has been tried in malpractice laws in the past and has not proven successful in Arkansas. He indicated we would take no stand on this issue.

A frivolous lawsuit bill will be introduced as a committee bill for sanctions imposed on those filing frivolous lawsuits. However, this is equivalent to Rule 11 of the Federal Proceedings of Civil Lawsuits which has been adopted by the Arkansas Supreme Court. At this time we do not know the text of the bill. We will support this type of legislation.

The Insurance Commissioner proposes a bill that would grant immunity from lawsuits to officers and directors of charitable or nonprofit associations. We will support this type of bill and will try to include the Arkansas Medical Society in the wording.

A bill will be introduced to prohibit the dollar amount in pleadings for damages in lawsuits. This was put into Arkansas malpractice laws in 1979 by the Society. This bill is being introduced to extend this to other lawsuits for damages. We should support this issue.

Elimination of direct action lawsuits involving a charity hospital will be considered. Mr. Mitchell stated at present a charitable hospital enjoys charitable immunity in our state. Some hospitals, nevertheless, have chosen to insure for malpractice while others have not. In instances where there is insurance, a claim is not filed against the hospital but is filed against the insurance company. Most agree there is more success in the recovery against an insurance company. Discussion has been to eliminate direct action against insurance companies instead of the hospital. Currently, a mistrial is declared if an amount of insurance is mentioned during a regular lawsuit. This bill would not be introduced at the request of the Medical Society. If it is introduced, the Society will have to decide whether to support it depending upon the wording.

The Insurance Commissioner proposes to eliminate your ability to insure for punitive damages. Presently, it is a market decision as to where a company sells this kind of coverage. Mr. Mitchell indicated that punitive damages are, for the most part, in the form of a fine and currently some of the insurance companies writing professional liability for physicians provide for punitive damages and others do not. Part of the concern is if a lawsuit is brought against a physician for compensatory and punitive damages, a physician would be much more willing to settle the suit if he thought he might be without insurance coverage for the punitive portion. The Society should oppose this bill.

Efforts will be made to change the law pertaining to joint and several liability. This is often referred to as the "deep pocket theory". This is where both parties being sued are negligent but one is only negligent for a small part. The problem occurs when the one with the large share of the fault carries no insurance coverage or has no assets. The entire settlement is settled against the remaining party. Mr. Mitchell indicated he has mixed feelings about changing this law because

often times in professional liability or malpractice suits it is the hospital that has the "deep pockets" and not a physician. Dr. Weber recommended supporting this with the understanding it could be a physician who ends up being a little man in a malpractice suit which also involves hospitals.

Dr. Weber recommended we take no position on the changes in the law pertaining to collateral sources. A change in the law would allow the introduction into evidence the recovery a plaintiff had from other sources such as medical insurance. Mr. Mitchell indicated that Arkansas has a subrogation law which would allow other third-parties to recover from the plaintiff any amount paid that was also paid as a result of a lawsuit.

Two issues we always face are prejudgement interest and comparative fault. If the law is changed on prejudgement interest, it would mean that interest would start accumulating at the time the incident occurred. Comparative fault would simply allow for awards in the case where a patient and physician were equally at fault. Currently, if that were the case, there would be no award. Dr. Weber indicated that with the current insurance crisis he doubted the plaintiff's lawyer would attempt to pass such legislation. If they do, we should oppose it as we have in the past.

There will be legislation introduced that will allow optometrists to prescribe therapeutic drugs. Two sessions ago, the optometrists obtained permission to use diagnostic drugs approved by a committee which included, among others, one ophthalmologist. In the last session, the optometrists had this committee's responsibilities moved to the Optometry Board and, at that time upon question, indicated they did not plan to ask for therapeutic drug use. However, this session may be the one we will see them go back on their word and do exactly what they said they would not. At this time, several states allow optometrists to use therapeutic drugs. The drugs they will want to use probably will not only be topical drugs but also would include some oral drugs.

In the information provided to legislators and the Governor, optometrists indicated their schools are rated higher than medical, dental, or pharmacy schools. They stated that such permission would be in the best public interest because optometrists are more readily available in all areas of the state. They also claim it is less costly to the patients and that optometrists have a proven track record.

The Committee's position is that this represents one of the greatest attempts by allied health personnel to gain the privilege of practicing medicine. The Committee's recommendation is to vigorously oppose this bill. This morning the Council adopted a resolution concerning this legislation. Dr. Singleton read the resolution presented to the Council. (See attachment #1.)

Physical Therapists will introduce legislation that will allow them to practice independently. Some orthopaedic surgeons think this might be okay. However, many other physicians feel they do not have enough experience and background in diagnosis and treatment without benefit of physician referral. The Committee recommends we oppose this bill.

In 1983 we fought legislation that would allow X-ray technicians to be licensed in the state and would require that all x-rays be made by a registered, licensed x-ray technologist or a physician. We were successful in defeating this legislation and anticipate this issue will be back this year. In 1985, the American College of Radiology went on record in support of such legislation. The problem is, there are not enough registered technologists in the state to meet the demands of rural Arkansas. The Committee opposes this bill.

Public Law 93-641 was recently repealed by Congress. However, Arkansas still has a Certificate of Need (CON) Law. The Committee feels some type of CON legislation will be introduced and we will continue to have some type of CON. In states where CON has been completely eliminated there has been great growth in nursing home beds and their occupancy. In Arkansas, 90% of nursing home beds are occupied by Medicaid patients. Hospitals are split down the middle on his issue. Legislation which will be introduced will probably require the appointment of a seven member committe to handle CONs for home health agencies, nursing homes and hospitals. We are recommending that physicians be completely kept out of such law. Dr. Weber asked for permission to support legislation along these lines.

Pharmacists may introduce legislation for therapeutic substitution. Dr. Weber indicated this should not be confused with generic substitution, which is substitution of the same chemical for another brand. Therapeutic substitution would be a therapeutic alternative in one of the same class of drugs such as a steroid being substituted by another type of steroid. The committee feels that to allow therapeutic substitution would be a loss of control by the physician in the therapy

of his patients.

Seatbelt legislation will be introduced again in this session by the Health Department. In the past, the Society has supported this legislation. It was pointed out that automobile accidents are the fourth leading cause of death and it is the number one cause of death between the ages of 15-24. The use of seatbelts reduce serious injuries and death by 25%-50%. The Committee recommends we support this legislation.

The issue of all-terrain vehicles (ATVs) will be introduced. These are used extensively by farmers and hunters. According to statistics, Arkansas is one of the leading states in the nation in deaths due to accidents on ATVs. Over one-half of those killed or injured have been children. Pediatricians and the Arkansas Children's Hospital are pressing for some type of legislation. Dr. Weber indicated that the Committee felt that the Medical Society should develop a Position Paper on promoting safety with ATVs with emphasis about the danger to children and not pursue legislation. Sportsmen and farmers are not of a mind to have helmets and age restrictions in their use and therefore it would be extremely hard to pass this type of legislation. However, this item has become a public health problem. Dr. Weber recommended the State Board of Health try to gather more accurate statistics on ATV deaths and injuries. The Department's statistics are based upon accidents on public roads and most of the ATV accidents are off the road.

A motion was made and seconded that the Medical Society work with the Arkansas Department of Health for some type legislation that would protect children using ATVs. Discussion was that it will be extremely difficult, if not impossible, to pass any legislation of this type. It was pointed out by members of the House of Delegates that the Society had an obligation to try to do everything it can to protect the children.

The issue of lay midwifery will undoubtedly come up in this session. This had not been regulated until the last session of the legislature. The Legislature made midwifery legal in six counties and appointed the Arkansas Department of Health to regulate and test lay midwives for licensure. At this point, virtually no one is in compliance with the current law and everyone who wishes to practice midwifery can do so anywhere in the entire state without any enforcement or regulation. We anticipate legislation will be introduced to have a separate Lay Midwifery Board, thus removing the Arkansas Department of Health from any authority. The Committee feels that, in good conscience, the Society cannot support midwifery as a profession but does recognize the right for anyone to choose to bear children at home.

Dr. Weber indicated that Senator Gibson, the author of the original lay midwifery bill, will be willing to support some type of legislation. Apparently, the nurse midwife law is good, the only problem is that we don't have an adequate number of nurse midwives.

There were questions from the House as to whether the Arkansas Department of Health had any statistics on practicing lay midwives. Dr. Ben Saltzman indicated the Department does not have adequate information because the troubled cases are referred to physicians and if serious problems occur they show up in the statistics of physicians and hospitals. There was a request from the House of Delegates to once again ask the physicians in the state to provide information concerning problems with lay midwives so we can have information as to where and what the problems are. A motion was made and approved that the Society could not, in clear conscience, support midwifery as a profession.

Preferred Provider Organization (PPO) legislation will be again introduced this session. This is primarily a business/industry issue. In the last session, we had business and industry, the Society, and Arkansas Blue Cross Blue Shield on one side with the other allied health professions on the other. This issue may see physicians in various specialties on one side or the other. Business wants the right to contract with individuals selectively, and the business coalition favors some type of PPO legislation using primary care physicians as case managers. PPOs use case managers and are at risk. Other physicians who contract do so at some type of discount off their usual fees. We expect there will be a movement to make case managers illegal, not only in PPOs but also HMOs. Employers are very concerned that medical care is a sufficient cost in the business and the Chamber of Commerce and Governor are very concerned about jobs in Arkansas. We would with your permission work with the coalition in drafting PPO legislation. We anticipate that legislation will be introduced to prevent employers from developing plans that designate providers and we expect legislation to challenge the ERISA exemption by the federal government

for multiple employer trusts and self insurers. Industry feels that limited licensed practitioners, who practice without physician supervision or referral, are responsible for significant portions of the increase in the cost of care, as are mandated benefits paid to such health professionals.

A motion was made by Dr. Langston of Pine Bluff and seconded that any legislation drawn should be brought back to the Council for their review. This motion passed.

The emergency physicians brought to the Committee's attention the problem of the definition of emergency that is now being used by Medicaid for determining the payments for emergency room services. The emergency physicians felt this might need some legislative relief.

The current definition Medicaid uses is: significant trauma, fever of 103° and above, mental obtundation, drug or substance overdose, respiratory distress, substernal pain, onset of labor, shock, significant bleeding, and children under two years of age..." It does not cover ruptured ectopic pregnancy, acute abdominal, collapse of lung, etc. Unless the items mentioned are on Medicaid's list, they do not pay because it is not classified as an emergency. The Committee recommended adopting the definition used by Medicare. The Committee also recommended that Mr. Mitchell draft legislation using that definition.

Dr. Weber indicated that we can expect to see a "Right of the Terminally Ill" bill. It is recommended we support it, provided that it does not repeal to the third party proxy when the patient is comotose. As we understand, the way the legislation will be introduced is that if the patient is comatose, then the family cannot carry out a living will for the patient. Mr. Mitchell will review this. The Committee would like your support on this issue.

Dr. Weber indicated there would be a lot of Health Department legislation and they want to charge fees for licensing and inspections. There will be bills regarding protection of blood, AIDS, and child abuse. There will be a bill proposing the licensing of dietitians. Dr. Saltzman indicated the licensing of dietitians will prevent those people who are not trained from providing dietary advice.

Dr. Weber reminded the House that during the last session, there were over 1,700 bills introduced. Over 90 of them pertained to medicine. In advance, we are lucky if we can determine about 1/4 of the bills. As you can see, this session will be very important and busy. Dr. Weber reminded those present that decisions are made at the grassroots level by the physicians back home discussing issues with their legislators. The physicians back home will have more influence in legislation than those working at the Capitol.

Dr. Ray Jouett, President-Elect of the AMS, made a motion that Dr. Warren Douglas of Pulaski County be recommended to the Governor for reappointment to the State Medical Board. A motion was seconded and passed.

Speaker of the House, Dr. Chudy, indicated under the rules of the House any new business not on the agenda requires a two-thirds vote before it could be discussed.

Dr. Chudy indicated there were two important items of business and if there were no objections from the House they would be discussed.

Dr. Singleton of Fayetteville read a resolution. The resolution was reviewed by the Council and referred to the House. A motion was made to approve this resolution and it was passed by the House. (See attachment #2.)

Dr. Charles Rodgers of Pulaski County also read a resolution that was recommended by the Council. The resolution was passed. (See attachment #2.)

A motion was made to include the fact that the Medical Society is opposed to therapeutic substitution by pharmacists. It was approved.

Dr. Chudy reminded the Nominating Committee they were to meet following the House of Delegates meeting. He also asked those present to fill out the sheet provided indicating their contacts with state legislators and senators.

Mr. Mitchell reminded those present to go home and discuss these issues with their legislators. He also reminded them that this is exactly what other groups are doing and that passing resolutions are not going to mean a thing during the legislature. Dr. Weber indicated he would like to see the specialty groups and the county societies with similar resolutions forward them to each of the legislators and the Governor. He indicated that this was the only way we will make any progress by using resolutions. He indicated that general internists, family physicians and pediatricians should have particular interest in the issues discussed.

There being no other items of business, the House adjourned.

PROPOSED ARKANSAS MEDICAL SOCIETY RESOLUTION

WHEREAS, the public interest has been well served by requiring medical education and licensure before individuals be allowed to hold themselves out as able to safely diagnose and treat medical conditions, and

WHEREAS, optometric education is limited and does not prepare its practitioners to diagnose nor treat medical eye diseases to the extent doctors of medicine are trained, and

WHEREAS, legislation will be introduced in the 1987 Arkansas General Assembly that would allow optometrists to prescribe medication to treat medical eye disease, and

WHEREAS, drugs can have very serious side effects including death. Optometrists are not trained to administer emergency medical treatment to patients with severe drug reactions nor are they licensed to administer emergency drugs, and

WHEREAS, the enlargement of the scope of practice of optometry beyond its education into treatment of medical eye diseases by legislative fiat, rather than by obtaining a medical education, is contrary to the public's best interest, and

WHEREAS, medical eye care needs of citizens of Arkansas are appropriately being met by primary care physicians (pediatricians, family practitioners, general internists, and ophthalmologists) who are available in all communities and are providing this care in a cost-effective manner,

NOW, THEREFORE, BE IT RESOLVED that the Arkansas Medical Society calls on the Arkansas General Assembly to reject this effort by optometry to legislate for itself a medical license.

RESOLUTION

WHEREAS, the members of the Arkansas Medical Society in principle favor the use of generic drugs, but have developed a growing concern with the bioequivalency and quality of some generic drugs as well as the FDA's Abbreviated New Drug Application, and

WHEREAS, there is special concern of the incomplete testing methods and lack of quality control, as well as the application of the 75/75 method, and

WHEREAS, a therapeutic equivalent formulary is even more restrictive than a generic formulary, and

WHEREAS, we are opposed to added administrative work for physicians which is inherent in the requirement that they submit a statement of medical necessity for use of a brand name drug instead of its generic counterpart.

BE IT THEREFORE RESOLVED

THAT, physicians be cautioned to be alert to side effects of generic drugs and that they look for signs of inequity in bioavailability and bioequivalency of generic drugs, and

THAT, the Pharmacy Advisory Committee of the Division of Health and Human Services reconsider the mandatory generic formulary until physicians can be assured these generic drugs are being properly tested, and

THAT, the Pharmacy Advisory Committee did advise not to pursue development of a therapeutic equivalency formulary, and

THAT, the present state law be allowed to stand which permits the initialing or signing of prescriptions that are to be dispensed as written without having to state medical necessity.

Submitted by the Pulaski County Medical Society

Approved and amended by the Arkansas Medical Society, November 23, 1986

Special Report

A Washington Update*

by

James H. Sammons, M.D.

Executive Vice President

American Medical Association

Family practice happens to be my medical specialty. And on behalf of it, and the American Medical Association as well, I take special pride in observing the "Physician of the Year Award" given to Dr. Amail Chudy by the American Academy of Family Physicians. They couldn't have made a better choice. Because he's the kind of physician we need more of—one dedicated not only to his patients but also to the collective responsibilities our profession has to society-at-large—responsibilities that fall to our federation of organized medicine and medical leaders like Amail.

We need his kind of leadership to help deal with what is essentially a whole new medical world out there. Its ramifications are all around us. The kind and amount of clinical care we're able to provide can depend on decisions made in far-off places by the representatives of business, industry, and insurance companies, by clerks and actuaries, and by legislators and regulators in local, state and national governments.

Their decisions can come as successive cuts in projected government expenditures for health care, dwindling government support for medical research and medical education, prospective pricing in both the private and the public sectors —DRGs and PROs—to give a few examples. And it's all taking place in an increasingly competitive marketplace.

There are more of us, and more of other providers as well, including group practices (prepaid and otherwise), which is not to mention all of the free-standing centers. Health care is commonly referred to as a business, an industry or even a corporate enterprise. That's understandable. Right now, more than a third of the nation's acute care hospitals and beds are owned, leased or managed by multi-hospital systems of three or more units, both for-profit and non-profit. According to an international market research corporation, that trend will continue because of pressures on independent hospitals to join forces with others for greater economy, greater efficiency and greater management expertise.

By 1990, according to the researchers, "multi" systems will control more than half of the hospital beds in this country. In these and other ways, physicians, no matter where they practice (and hospitals as well) can feel torn between conflicting demands. Between providing the best kind of care to patients when and where they really need it, while conforming to the sometimes arbitrary demands, economic and otherwise, of people far removed from the actual day-to-day delivery of care to patients. This is not to deny the need for physicians and other providers to make patient care more cost effective, to trim the fat and preserve the lean—if there's any fat left to find—or to cooperate in monitoring both the utilization and the quality of patient care. And the AMA has an impressive list of policies, proposals and programs to address such needs. But I submit to you that the only way our profession can cope with that new medical world out there is to stand together in unity and commitment to what's medically right and foursquare for the quality of patient care. And we have to see our world as it is and will be, not as it used to be.

For us, there's no going back. Modern medicine, with its arrays of space-age technology and highly-trained personnel, is inevitably an organizational process. The number of group practices in this country increased by *one hundred and forty three* percent between 1969 and 1984, from about 6,400 to almost *15,500* according to our statistics. About 40 percent of all physicians, excluding residents, are now employees of one kind or another. Soon more than 50 percent will be—at which point the minority will become the

*This speech was given by Dr. Sammons at the Winter Meeting of the Arkansas Medical Society, North Little Rock, Arkansas, November 23, 1986.

majority. That's why the AMA sponsored a national forum for employed physicians in conjunction with our annual meeting in June, which was well-attended and well-received.

One-half of all MDs in this country also are under 40 years of age. Which is why AMA delegates in June also overwhelmingly approved a new young physicians' section in the House. It was called "a fantasy come true" and an "avenue of input we need" by representatives of the new section and in concert with all the other medical organizations represented in what has truly become the Congress of American medicine. That includes medical schools, students and residents who also have seats on our Board, the military and public health services, and various clinical specialties (fast approaching 60 with three or more added during our annual meeting).

In June, our three-year-old hospital medical staff section meeting drew 670 attendees representing 545 hospitals from 47 states and the District of Columbia. That attests to their concerns about the future of medicine and their role in it. Those concerns center on such crucial issues as hospital medical staff autonomy and maintaining the quality of inpatient care, concerns shared by physicians in all modes of practice.

Modern medicine also is expensive. And this nation of ours is facing some tough choices in deciding how much care it wants and how much it's willing to pay for it. So the question is how do we cope with our world as it is? One thing most physicians can agree on is the need for a strong national power and presence for American medicine. The AMA, since it represents all of medicine, is uniquely suited to provide that kind of representation. And we get attention. In 1983 sociologists at the University of Chicago concluded a two-year study of national health policy influences in this country. They asked for the opinions of representatives of 135 major health-related or health-interested organizations in the nation, both public and private. In terms of influence in shaping national health policy, *90 percent* of them said that far and away, the AMA placed first. So what membership in county, state and medical specialty societies and the AMA offers is both an opportunity for and an entree to that kind of policy-making at the local, state and national levels, including Washington, D. C.

It's true we don't win every battle on this bill or that regulation. No organization can. For example, the Medicare fee-freeze does end on December 31st. But with respect to physician participation or non-participation in Medicare for 1987, the Administration has mailed out the most complex and confusing set of regulations I've ever seen. The November 21st issue of "American Medical News" contains an in-depth analysis of the regulations, to the degree that that is possible, as well as some factors physicians should take into account when deciding whether or not to participate. More helpful information will appear in subsequent issues.

Meanwhile, the AMA continues to play hardball on the playing fields of Washington. And we've had some big innings. One of the biggest occurred November 14th when President Reagan signed an omnibus health bill with nine separate titles. Consistent with AMA policy, S 1744 establishes a no-fault compensation system for individuals injured due to mandated pediatric vaccines. Ten years ago, ten drug firms manufactured these vaccines to protect our children. Today there are only three.

Another title of the bill is the Health Care Quality Improvement Act of 1986. It has two major components — one, providing immunity from damages under state and federal laws for qualified professional peer review actions and the other establishing, under the Secretary of HHS, an information clearinghouse on physician discipline and malpractice judgments and awards. This peer review legislation would not prevent a physician from suing for reinstatement of privileges or status revoked by the reviewing body. But it would grant immunity from damages in peer review cases if there is a "reasonable belief" that the review was conducted in "good faith." The clearinghouse, maintained by the Secretary of HHS, would collect and distribute information involving medical malpractice payments, state licensure actions, data pertaining to hospital privilege, and adverse membership actions taken by professional societies.

Still another title of the bill repeals the National Health Planning and Resources Development Act of 1974, which the AMA has long opposed.

Other provisions of the bill deal with such things as increased grants for geriatric training, creation of a National Commission to Prevent Infant Mortality, limits on HHS assistance to promote HMOs, and added funding for further research into the causes of Alzheimer's Disease.

The AMA joined more than 50 other private and public organizations as well as its Congres-

sional sponsors in running a full-page ad in the *New York Times* urging the President to sign the bill. This is just one example of what our critics often fail to recognize, that more often than not, the AMA plays a key role in supporting federal legislation in the public interest.

In the current Congress, this included development and introduction of legislation calling for a ban on the advertising of tobacco products, defeat of a proposed rollback in the tobacco tax from sixteen cents to eight cents per pack of cigarettes, enactment of legislation requiring warning labels on smokeless tobacco products, a ban on the broadcast advertising of those products and an increase in the federal tax on alcoholic beverages.

And we have developed what we believe are effective, efficient and more equitable proposals to finance care for everyone, from the young to the old as well as the homeless, the unemployed, and the uninsurable. In fact, two of our top priorities right now which involve very substantial amounts of our staff and financial resources, center on special problems associated with child and adolescent health, and those of older Americans, which should be a concern to all Americans and to every physician.

Next month a "white paper" on child and adolescent health will be presented to the AMA House of Delegates. What it reveals is one grim health story after another, stories that need to be publicly hammered home.

The suicide rate among adolescents aged 12 to 18 has tripled in the last twenty years, although it has recently decreased a bit.

According to the American Academy of Pediatrics, approximately one million teenage girls, about 10 percent of the total, become pregnant each year. About 650,000 are unmarried, 20,000 are fourteen years or younger, and 400,000 have abortions.

Alcohol and drugs kill 8,000 teenage drivers every year and seriously injure 40,000 more. About six percent of adolescents drink alcohol on a daily basis and seven percent frequently smoke marijuana.

Of graduating high school seniors, almost 20 percent have tried cocaine and seven percent use it on a monthly basis. Cocaine which is smoked, "crack", costs as little as five or ten dollars a dose and has become a drug-of-choice for junior high and high school students.

Or consider child sexual abuse and pornography, known as "kiddie porn" on the streets. According to data gathered by the AMA, up to 25 percent of females are sexually victimized in one way or another by the time they reach the age of 13, often by members of their own families or by other relatives.

The sale of sexually-explicit materials involving children, some still in the toddling stage, has become a *multi-billion* dollar a year industry, although precise totals are hard to come by.

Meanwhile, as another AMA report points out, up to one and a half million children and adolescents turn up missing every year. Some just run away. Others are categorized as "throwaways", turned out of their homes by their own parents. As we might expect, street children are subject to a variety of health problems—environmental, physical and emotional.

And older Americans, at the other end of the age spectrum, also have some special health problems—problems that this country must be prepared to address more effectively than it has.

A National Center for Health Statistics report predicts the average life expectancy in this country will reach 80 by just after the turn of the century.

The same report estimated the number of people with chronic health problems will increase from 32 million to 46 million, the number of doctor visits per year will jump by 318 million to a total of 1.4 billion, hospitalization will increase 48 percent to an annual total of 407 million days, and the number of nursing home residents will more than double as will costs for their care, to more than $30 billion a year.

And all of it will take place in a constrained financial resource environment. The AMA, for its part, is committed to developing new approaches to improve the health status of younger and older Americans. And you'll be hearing much more about them in the months and years ahead. But the point is that given the crucial problems confronting our profession and federation, every physician should be willing to help us find answers, including the AMA.

I push AMA membership at every opportunity, even when I can get just one doctor to stand still and listen, much less an audience of the magnitude represented here today. Given my present office, you may think that's my job. And it is. But as a physician, and I'm proud and privileged to be one, it means much more than a job to me.

As a physician, I'm a *crusader* for AMA membership, replete with fire and brimstone if need

be. Because I've come to appreciate, as few people can, just how much that Association has meant, does mean, and can mean—if we let it—to American medicine and to the American public.

Consider AMA involvement in medical education in this country. Many physicians, including medical educators, really don't know just how expensive our involvement in quality assurance has been and still is. Consistently, more than one-half of our annual budget is devoted to the enhancement of medical education and science. And that's a whole lot of hard cash, currently more than $60 million worth.

Attend any meeting of the various bodies for the accreditation of medical education in this country and you'll find the AMA represented there. Go to any important hearing in the Congress on medical and health-related matters, and you'll find AMA people there. The same can be said of many county, state, and medical specialty society meetings and meetings such as this one here today. We can be found at hundreds of other private and public forums every year. And you can read, see, and hear positive messages about American medicine and the physicians who practice it that we send out to millions of American readers, listeners, and viewers each year.

We do all the things that we do because we recognize that this nation, and our profession, are facing some rough medical roads ahead. To safely travel those roads, we need unity and strength of membership and purpose as physicians and as a profession. And they must be met in strong organizations, including the federation of organized medicine.

Every time I take a look at our federation, and I've been looking for a long time now, I'm reminded once again of the awesome responsibilities that our profession has to society-at-large, responsibilities entrusted to us precisely because we *are* physicians and because we *are* an ethical and proud profession in the finest sense of the words. Every physician must understand that. They must be first advocates for their patients, of course. But they also must support our profession *as* a profession, and help us fulfill our collective obligations to the American people.

In the last analysis, choosing to be a member of the AMA should not be a question of "what's in it for me?" The choices are ours to make as individual physicians and as a profession. May God help us make the right ones for the sake of our own medical future and that of the patients we treat.

Coronary Angioplasty: Current Strategies and Practices

Beverly H. Lorell, M.D., F.A.C.C.*

The following paper was presented as part of the scientific program at the Annual Session of the Arkansas Medical Society, April 18, 1986.

Percutaneous transluminal coronary angioplasty has rapidly achieved a major role in the treatment of patients with symptomatic coronary artery disease. In the initial series of 50 patients reported by pioneer Andreas Gruntzig and coworkers in 1979,[1] 66 percent of the patients were successfully dilated while six percent incurred a nonfatal infarction and 14 percent had emergency bypass surgery. Similar results were subsequently reported from the multiple centers that participated in the registry study of National Heart, Lung and Blood Institute (NHLBI). Among 3,299 procedures performed in 3,079 patients between 1979-1982, successful dilation occurred in 66% while the balloon catheter could not be passed across the stenosis in one-fourth of patients.[2] In this early registry experience, nonfatal infarction occurred in five percent, emergency bypass operation in five percent, and death in 0.9% of patients. Several lessons were learned from these early experiences. First, skilled and cooperative surgical and anesthesia backup support was mandatory. Secondly, left main stem stenoses should not be approached with angioplasty. Third, angioplasty in multivessel disease was associated with higher risk of complications than in single vessel disease.

Initial angioplasty catheter systems were stiff and virtually nonsteerable, had bulky balloon profiles, and rupture pressures of 6 atm (90 psi). Thus, angioplasty was largely limited to discrete short stenoses in the most proximal portion of the major coronary arteries. Extremely tight, complex, and distal stenoses beyond branch points were usually not accessible. Several advances in catheter system technology have dramatically widened the application of angioplasty to more severe, complex, and extensive disease. A key advance was the development by Dr. John Simpson and coworkers of highly flexible and steerable wires that could be moved independently of the balloon catheter. Other advances included the development of catheters with reduced deflated external diameter (0.7 mm) and ballons which tolerated high inflation pressures (20 atm, 300 psi). Newer, preformed guiding catheters have been developed which provide a better "support platform" for advancing the balloon across severe, rigid stenoses.

These developments permitted the negotiation of branch points with the ease of reaching distal eccentric lesions. In difficult cases, it was possible to perform sequential insertion of catheters starting with low-profile catheters and advancing successively larger balloons on an exchange length guidewire. These advances also opened up the use of angioplasty to revascularize recent total artery occlusions.[3] Double wire and catheters systems can now be used to dilate lesions which involve large branch vessels where a single catheter approach might risk occluding a branch vessel via a "snowplaw" effect. Thus, angioplasty can now be applied in patients with complex coronary anatomy including stenoses which are long, eccentric or complex, distal and branch lesions, bypass graft lesions, and subtotal and total occlusions.

Using the definition of primary success as a reduction in the angiographic coronary diameter stenosis to less than 50%, most centers now report an angiographic success rate of greater than 85% in patients undergoing initial elective single vessel angioplasty.

As a result of these technical advances and increased operator experience at an expanding number of centers, the primary angiographic

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success rate has improved despite the inclusion of patients with more complex anatomy. Using the definition of primary success as a reduction in the angiographic coronary diameter stenosis to less than 50%, most centers now report an angiographic success rate of greater than 85% in patients undergoing initial elective single vessel angioplasty. For example, Leimgruber and coworkers from Emory University recently reported an 88% primary success rate in 1,758 patients in whom elective, first angioplasty was attempted between July 1980 and July 1984.[4] A similar experience is now expected from hospitals with newer but active programs.

Angioplasty patients continue to be at risk for the two major complications of 1) abrupt vessel reclosure in the catheterization laboratory which may result in infarction, emergency bypass operation, and (rarely) death, and 2) late restenosis after initially successful dilatation. Both of these complications are best appreciated by a discussion of the probable mechanisms of dilatation during angioplasty. It was initially widely believed the lumen size of the artery increased following angioplasty due to simple compression or "squashing" of the atheroma. Subsequent observations in experimental models and at autopsy, however, have suggested that an increase in lumen size is more dependent upon focal splitting and fracturing of the rigid atheroma as well as overstretching of the normal elastic elements of the vessel wall.[5,6] Thus, a prerequisite for a successful angioplasty appears to be the deliberate fracturing of the atheroma by the balloon inflation. This view is supported by the quantitative coronary lumen analyses of Johnson and coworkers which showed that successful angioplasty is associated with about a three-fold increase in the mean cross sectional lumen area which is, however, smaller than the cross-sectional area of the dilated balloon.[7] Furthermore, substantial late increases in the cross-sectional area appear to occur in about one-third of patients. The further delayed increase in lumen area after angioplasty is likely to be due to a remodeling process that includes retraction of torn intimal flaps, fibrosis, and resolution of some component of spasm as the damaged endothelium heals.

However, in a small fraction of patients, balloon dilatation is followed by *abrupt reclosure* of the stenotic segment with cessation of antegrade flow in the artery. In the absence of collateral blood flow to the distal artery, abrupt reclosure is usually followed by the development of angina, a rise in left heart filling pressure, ST segment elevation, and subsequent infarction, if this process is not promptly reversed. Abrupt reclosure, which usually occurs within 5-30 minutes after dilatation, is most likely due to obstruction of flow by a large intimal flap followed by the secondary development of avid platelet aggregation and thrombus formation in the area of endothelial damage and stagnant flow. As noted above, this event occurred in about six to seven percent of patients in the early angioplasty experience. In the interim, several strategies have developed to better prevent or treat this complication. It is now standard practice to treat patients with antiplatelet agents, intravenous heparin, and calcium channel blockers, to reduce the risk of thrombus formation and coronary spasm. In addition, current catheter systems with independent guidewires now permit the operator to remove the bulky balloon catheter, leaving an exchange guidewire in the newly dilated artery. The patency of the artery can thus be monitored for several minutes via contrast injections through the guiding catheter around the wire. If abrupt reclosure occurs, the balloon can immediately be readvanced into the true lumen over the wire, and the occluded segment can be redilated. In our experience, about 40-50% of segments which manifest total abrupt reclosure can be successfully reopened by simple redilatation, with restoration of brisk antegrade blood flow and abolition of ischemia. Using these strategies, abrupt closure requiring emergency bypass operation now occurs in only two-three percent of elective single vessel angioplasties. Furthermore, if abrupt reclosure occurs that cannot be reopened with repeat dilatations, the presence of the guidewire in the true lumen permits passage of the recently developed "reperfusion catheter" over the wire. When the wire is removed, the distal artery is then perfused via aortic blood which enters the catheter via multiple sideholes. This device usually affords sufficient distal blood flow to alleviate ischemia and thus stabilize the patient during preparation for emergency bypass surgery.

Among the greater than 85% of patients who experience a successful dilatation by conventional subjective angiographic assessment, there is clearly a need for the development of reproducible and reliable objective quantitative angiographic and videodensitometric methods of evaluating the artery.[7,8] Beyond visual angiographic assessment

of the appearance of the artery, there is additional evidence that angioplasty is clinically beneficial. First, improvement of the angiographic appearance is accompanied by a reduction in the pressure gradient across the stenosis.[1] In addition, there is an improved response to exercise testing including subjective symptoms, objective electrocardiographic and thallium scintigraphy assessment, and radionuclide evalation of regional wall motion abnormalities.[9-11]

There is clearly a need for the development of reproducible and reliable objective quantitative angiographic and videodensitometric methods of evaluating the artery.

LONG-TERM RESULTS

The long-term outcome following elective first angioplasty has been extensively studied. In the NHLBI registry,[2] 84% of the total patients with initial successful angioplasty underwent angiographic restudy, with documentation of restenosis in 33%—defined as a loss of 50% or more of the initial gain in diameter achieved and/or a 30% or greater increase from post-angioplasty stenosis to follow-up stenosis. In the registry, the risk of developing restenosis was highest in the first five months after angioplasty and this "time window" of risk has been repeatedly confirmed by others. It should be noted that not all patients who met these criteria for angiographic restenosis were symptomatic, since one-fourth of the group with angiographic restenosis by the above definition had not redeveloped angina. The experience at our center has been similar in that we have observed a 17% incidence of clinical restenosis following initial elective angioplasty, defined as either the redevelopment of angina and/or the redevelopment of a positive exercise test during a formal series of exercise tests done in the first six months after angioplasty.

The reported incidence of angiographic restenosis is obviously influenced by the rate of angiographic restudy. The lowest incidence of angiographic restenosis to date was 17% in a large series from Kaltenbach and coworkers in Germany in which angiographic restudy was done in 94% of patients.[12] In a series of 998 patients reported by Leimgruber and coworkers,[4] the restudy rate was 57% and 30% of this subset had angiographic restenosis defined as a luminal diameter narrowing of greater than 50%. In this series, the highest rate of restenosis was noted in the first four months after angioplasty and was extremely infrequent after 12 months.

Several factors appear to be independently related to increased risk of restenosis. These factors include: 1) angioplasty of the left anterior descending artery; 2) the *absence* of intimal dissection and fracturing of the plaque; 3) a residual transstenotic gradient greater than 15 mm Hg; 4) the degree of luminal narrowing immediately after angioplasty; 5) unstable angina.[4] Thus, the determinants of restenosis are multifactorial and complex. The primary mechanism of late restenosis is unlikely to be simply due to platelet aggregation, thrombus, or vasospasm. A recent study shows that late restenosis is related in part to intimal proliferation of smooth muscle cells,[13] and pharmacologic therapies aimed at inhibition of cellular proliferation will be of great interest.

CLINICAL INDICATIONS

The relative risks and benefits of angioplasty in comparison with other therapies must always be carefully weighed in the individual patient. In balance, angioplasty is now the preferred therapy for the management of most symptomatic patients with single vessel disease, exclusive of left main stem disease. This is based on the observations that angioplasty in single vessel disease when performed by experienced operators has a two to three percent risk of emergency surgery and a mortality rate of less than 0.1 percent. For example, at our center, there is a primary success rate of 94% with a 1.8% risk of emergency bypass operation in this population. Furthermore, in comparison with bypass surgery, angioplasty carries the additional economic advantage of a

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much shorter hospitalization, less utilization of intensive care resources, and a return to gainful employment within a few days of the procedure. This analysis still holds when restenosis is included in the equation. In patients with restenosis who undergo a second angioplasty, the primary success rate is very high (97%) although a second restenosis may develop in approximately 26% of these patients.[2,13] Thus, about 80% of patients with single vessel disease experience documented and lasting angiographic success if repeat angioplasty is used to treat restenosis. As Gruentzig has emphasized,[14] the ability to do repetitive procedures in the awake patient underscores that a major advantage of angioplasty as a mode of revascularization is "as new stenoses develop during the usual evolution of coronary artery disease." For this reason, angioplasty is also an attractive and effective strategy in patients who develop angina due to a new discrete stenosis in a native vessel or in a bypass graft following multivessel bypass surgery.

UNSTABLE ANGINA

Angioplasty has also evolved into an important option for the management of the patient with unstable angina who is refractory to medical therapy. In the NHLBI registry,[2] the results of angioplasty in 442 patients with unstable angina and single vessel disease were compared with 330 similar patients who underwent bypass operation. The in-hospital mortality of the angioplasty patients was low (0.9%) and did not differ from the bypass patients. Furthermore, there were no differences in symptomatic outcome, long-term mortality, and long-term infarction rates between the patients who received angioplasty versus bypass surgery. The application of angioplasty in unstable angina has been enhanced by the development of newer catheter-wire systems as well as operator experience in dilating total occlusions since a substantial fraction of patients with unstable angina are found to have a totally occluded vessel with marginal distal vessel perfusion by collaterals.

Thus, angioplasty is now widely regarded as a preferred or comparable choice in comparison with bypass surgery for management of the patient with unstable angina associated with a single severe stenosis or total occlusion. Recently, angioplasty has been advocated in the management of the patient with multivessel disease who has angiographic evidence of a clear-cut "culprit" stenosis. This approach has not yet been widely studied. Similarly, the use of angioplasty early after diagnosis in the patient with unstable angina who has not yet failed medical therapy is also controversial. The merits of angioplasty in this setting are unclear since in this group of unstable angina patients, a medical program which includes aspirin anti-platelet therapy is associated with a very low risk (8.6%) of subsequent nonfatal infarction or cardiac death.[16]

ACUTE MYOCARDIAL INFARCTION

Emergency revascularization with thrombolytic agents for acute myocardial infarction is now being used extensively and is the subject of several large ongoing clinical trials. The intravenous administration of thrombolytic agents has the important advantage of potential administration very early after the onset of infarction. However, patients whose arteries have been recanalized with streptokinase or other thrombolytic agents usually have significant residual stenoses and are at risk for the development of reclosure and repeat infarction. For this reason, there has been great interest in combining thrombolytic recanalization with angioplasty and in using angioplasty as the primary mode of recanalization.[17] O'Neill and coworkers randomly assigned 56 patients with acute infarction to either intracoronary streptokinase or immediate angioplasty.[18] Recanalization was achieved in a comparable percent of patients in each group (83 to 85% respectively), but a residual stenosis of 70% or greater was present in 83% of the streptokinase-treated patients and in only four percent of the angioplasty-treated patients. Furthermore, there was a lower incidence of post-infarction angina as well as greater improvement in global and regional wall motion assessed by followup ventriculograms in the patients treated with angioplasty. To address the issues raised by this and other studies, a major controlled and randomized trial (TIMI) sponsored by the NHLBI is now underway which will help to clarify the optimal timing and the subsets of patients with acute infarction who are most likely to benefit from angioplasty alone or as an adjunct to intravenous thrombolytic therapy.

MULTIVESSEL ANGIOPLASTY

Coronary angioplasty is now being performed in patients with multiple discrete stenoses in multiple vessels. In a very recent series, the primary angiographic success rate in patients with multivessel angioplasty appears to be comparable

to that reported in single vessel disease. For example, Mata and coworkers[19] reported an 85% primary success rate for both lesions in 63 of 74 patients who underwent double vessel angioplasty. Followup angiography was done an average of 5.5 months after angioplasty in all but three patients and angiographic restenosis was present in 23% of 132 dilated segments and in 34% of the patients. Thus, it appears that double vessel angioplasty can be done in selected patients with a high initial success rate and a rate of late restenosis which is only slightly higher than in patients with single vessel disease.

However, the *potential* risks of procedural complications are clearly greater in patients with multivessel angioplasty. If abrupt reclosure occurs after multivessel dilatations, the amount of myocardium which is jeopardized and the associated risk of developing massive infarction, shock, or death may be substantial in some patients. These risks are modified by many factors including the baseline left ventricular function and the adequacy of collateral perfusion in the event of abrupt reclosure. For example, the risk of abrupt reclosure is accentuated if one or more vessels are already totally occluded, and are therefore unlikely to provide collateral support for the vessels being dilated. The potential risks and benefits must be further weighed against the demonstrated efficacy of bypass surgery in symptomatic patients with multivessel disease, especially in the presence of depressed left ventricular function. Thus, multivessel angioplasty at present should probably be restricted to highly selected patients at centers with extensive angioplasty experience and excellent surgical and anesthesia backup. Multivessel angioplasty is currently a highly controversial alternative to bypass surgery, whose relative merits need to be addressed in a prospective clinical trial.

It appears that double vessel angioplasty can be done in selected patients with a high initial success rate. However, the potential risks of procedural complications are clearly greater in patients with multivessel angioplasty.

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Hyperbaric Oxygen Therapy in a Newborn Infant: A Case Presentation

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ABSTRACT

Although hyperbarbaric oxygen therapy is enjoying renewed popularity, its use in infants has remained relatively uncommon. This is in part secondary to concern over retrolental fibroplasia. We present a case involving successful use of hyperbaric oxygen to preserve a threatened skin flap in a full term baby. There were no opthalmologic complications. A review of the literature revealed that while retrolental fibroplasia does occur in full term infants, it is rare and does not seem to be associated with oxygen therapy. We suggest that new indications for hyperbaric oxygen in infants may be found and that persistent fetal circulation stands out as an example of a condition that may respond to hyperbaric oxygen therapy.

INTRODUCTION

Hyperbaric oxygen therapy is defined as a mode of medical treatment in which the patient is entirely enclosed in a pressure chamber breathing 100% oxygen at greater than one atmosphere of pressure. There are twelve currently accepted indications for hyperbaric oxygen therapy listed by the Undersea Medical Society: refractory osteomyelitis, radiation necrocis, decompression sickness, carbon monoxide poisoning, gas embolism, gas gangrene, refractory soft tissue infection and necrosis, refractory mycosis, cyanide poisoning, crush injury with ischemia, acute cerebral edema and compromised wounds, skin grafts or flaps et al.[1]

It is the later indication that is invoked in the following case presentation.

CASE HISTORY

A full term, newborn, white male weighing 2910 gms. presented to St. Vincent's Infirmary with a lumbosacral meningomyelocele and hydrocephalus. The day after his birth the infant was taken to the operating room for primary closure of the meningomyelocele.

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The lesion was very flat with little skin available for closure. (Fig. 1). The defect measured



Figure 1.

The meningomyelocele preoperatively.

seven by five cm. After closure of the dura, the skin was closed using bilateral advancement flaps with releasing incisions bilaterally. Postoperatively the flap exhibited cyanosis and poor capillary refill, (four-five seconds) and hyperbaric consultation was obtained.

The patient received seventeen, ninety minute hyperbaric oxygen treatments at two atmospheres over a period of six days. The patient was thirty-six hours old at the time of his first treatment.

Capillary refill while in the chamber was noted at one second. The patient was discharged at the end of the course of hyperbaric oxygen therapy.

Plastic surgical follow up at five and twelve

weeks after discharge revealed that the flap had taken and was well healed. (Fig. 2).



Figure 2.
Twelve weeks after completion of Hyperbaric Oxygen Therapy.

A slit lamp exam performed by an opthamologist six weeks after discharge revealed normal retinas bilaterally.

DISCUSSION

The role of hyperbaric oxygen in increasing the survival of skin flaps has been well documented in animal studies. Champion et al.[2] achieved survival of all experimental flaps in rabbits exposed to hyperbaric oxygen at two atmospheres twice a day, while all controls failed. An explanation for this observation was postulated by Mason et al.[3] who using histochemical staining for ATPase demonstrated capillary proliferation in hyperbaric oxygen treated skin flaps in guinea pigs compared to air controls. There was increased survival of skin flaps ($P < 0.01$) and enhanced epithelial regeneration ($P < 0.05$).

The use of hyperbaric oxygen in compromised skin flaps in adults is not uncommon. In our search of the literature, however, we found no other case of its use in infants for this indication, although in one study it was used to stop leakage of cerebral spinal fluid and inhibit bacterial growth in infected meningomyeloceles prior to their closure.[4]

The use of hyperbaric oxygen in an infant raised concern about the correlation of oxygen with retrolental fibroplasia. Although it is now clear that this disease is multifactorial and that oxygen may not even be the major factor,[5] some studies have shown a relationship between high fraction inspired oxygen and the development of retrolental fibroplasia.[6] This observation held, however, only for infants of birth weight less than 1200 gms. and $P_a O_2$ greater than 150 torr. The strongest correlation with retrolental fibroplasia was found with lower birth weight infants and longer duration of oxygen therapy.

In our case, however, this infant was full term and weighed 2910 gms. A search of the literature revealed a total of sixty-four reported cases of retrolental fibroplasia in full term infants. Of these, sixty-two had received no oxygen and the other two received negligible amounts, one receiving oxygen for a few minutes and the other for an hour and a half.[5] This suggests that risk factors other than oxygen play a prominent role in the etiology of retrolental fibroplasia in full term infants. If this is so, perhaps more liberal use of hyperbaric oxygen should be made in full term infants and new indications considered. An example would be persistant fetal circulation in which conventional oxygen therapy is important but sometimes inadequate.

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Orthopedic Trends

The Myth of the Non-Weightbearing Bone

Charles C. Schock, M.D.*

Recent publicity given a fractured fibula in a college athlete here in the state of Arkansas has provided cause to ponder a time-honored medical myth. A press release stated that since the fibula is a non-weightbearing bone, healing might be expected in as little as three weeks. When six weeks had passed, and healing adequate to permit strenuous athletic activity had not occurred, disability time was more realistically extended.

The concepts of weightbearing and loadbearing must be distinguished from one another. "Weight" is the force with which the earth's gravity attracts the mass of the body. This force is commonly transmitted to the ground through the feet and is balanced by an equal and opposite ground reaction force. "Load" is any force generated within the body, including "weight". Muscle contractions produce load on bones and joints and, when coupled, produce body movement. "Weight", therefore, is only a trivial example of loads on body members. A corpse lying on the floor is an example of pure weightbearing, and a moribund patient tottering stiff-legged holding a walker comes fairly close to that status. For "normal" activity, not to mention strenuous athletic competition, the loads generated within body members can amount to several times bodyweight. Frankel and Burstein observed the acceleration of the leg of a football player during kicking, and calculated a load of over three times body weight on the patellar tendon.[1] Considering the cross sectional area of the tendon, that load would be distributed as a stress approximating 2,000 pounds per square inch (psi).

The locomotor system functions by distributing such muscle generated loads between tendon, bone and joint to produce motion. A few "rules of thumb" exist to allow us to predict stress (load per unit area) on a particular musculoskeletal structure. Fundamental considerations in this regard include a) size and shape of bone and tendon, b) mechanical properties of bone and tendon, c) the relationship of anatomy and force generation of a muscle, and d) anatomy of the origin and insertion of muscle-tendon units.

Laws of bone growth dictate they become columns of sufficient size to bear efficiently the stresses generated by adjacent muscles. Where bones are obliged to become thin due to expansion of adjacent muscle, the bony substance must be compressed into a dense cortex of small cross-sectional area. Such bone is of a complex, "laminated" structure, not quickly reproduced in the case of fracture. The fibula (Figure 1) is an ex-



Figure 1.

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ample of such a bone—its size and shape are a historical record of its "load-bearing" history, since longitudinal compression causes periosteal bone deposition, whereas the lack of such allows bone resorption to occur. When enough bone has been laid down, applied load will fail to cause bony compression beyond a critical value, and periosteal deposition will cease.[2]

How much compressive load will a bone tolerate? It depends on cross section, of course. But allowing for this, tests on dense cortical bone indicate 16,000-20,000 psi will cause failure. The normal working range for stress on a bone is the neighborhood of 10% of that causing failure. Hence a femoral shaft with a cross sectional area of 1 square inch might routinely expect loads of 1,000-2,000 pounds and a fibular shaft of cross sectional area of 0.1 square inches appears accustomed to loads of around 150 pounds.[3]

Mechanical analysis of tendons likewise indicate a maximum stress of around 9,000 psi, with a usual working range in the neighborhood of 1,000-1,500 psi.[4] The peroneal tendons at the ankle of cross section of approximately 0.03 square inches might therefore expect loads of 30-50 pounds each.

Anatomic analysis can likewise give figures for force producing capacity of muscles (based on "physiologic cross section"), and we again see inverters and everters of the ankle each capable of producing 30-50 pounds force. The soleus can produce up to 180-200 pounds force.[5]

The fibula is situated lateral to the talus such that upward force on the heel of a cadaver would cause little or no force to be transmitted via that bone. Further inspection would reveal a tight bonding of the fibula to the tibia by the distal syndesmosis and the interosseous membrane (Figure 2). In addition, the peroneus longus and brevus, extensor digitorum longus, flexor hallucis longus and parts of the tibialis posterior and soleus take origin on the fibula (Figure 3). When these muscles strongly contract, the fibular shaft is compressed with an equal and opposite force against its moorings at the distal syndesmosis and interosseous membrane. In the normal situation "all things work together", since the muscles together can generate loads in the range of 100-200 pounds, and the fibula is anatomically able to bear this load without catastrophic failure. Furthermore, the bone's growth to a size that will distribute the load as a stress in the tolerable range will avoid a build-up of microscopic areas of failure that might lead to stress fracture if they accumulate faster than the repair rate. The normal fibula is therefore anatomically quite able to avoid painful deformation during usual activities. One suspects that "shin splints" with unaccustomed activity is, in part, a temporary buildup of microfractures which will heal with adequate rest.

A complete fracture of the fibula will, of course, produce painful displacement with attempted use

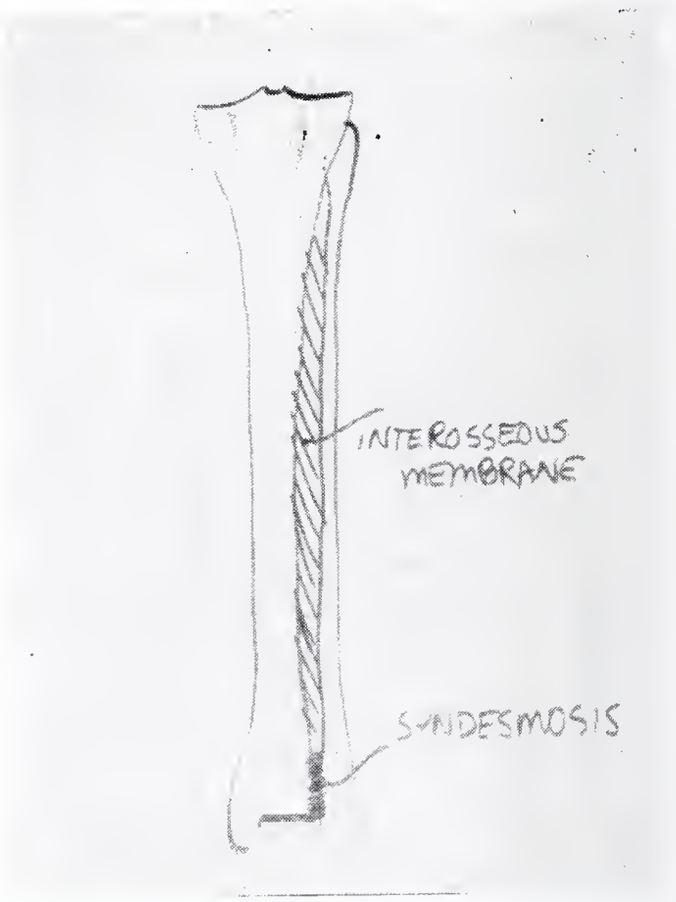


Figure 2.

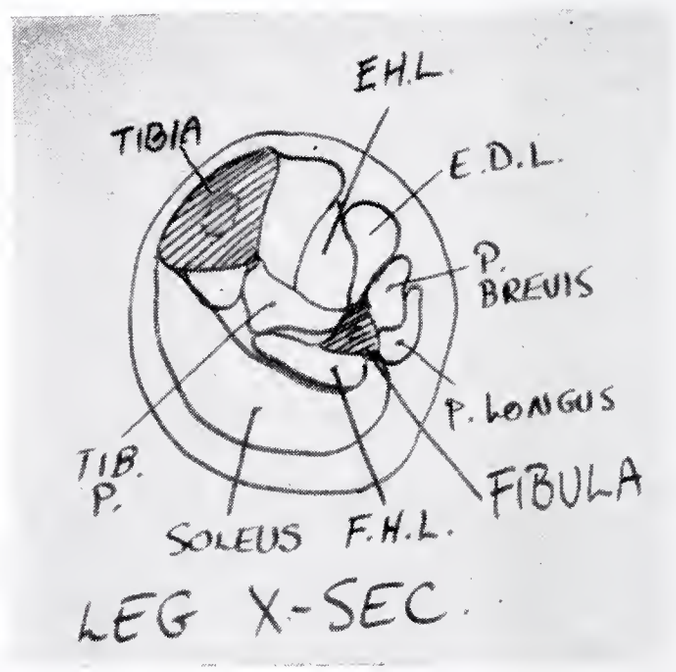


Figure 3.

of the attached muscles. Fracture healing involves the local production of a series of tissues progressively stiff and strong mechanical characteristics. With time, the original bone is reproduced in more or less original form according to the laws of bone remodeling cited above. In about four to six weeks time, the evolving callus will begin to assume the mechanical characteristics of cancellous bone. This allows the gentle mobilization of metaphyseal fractures (such as a Colle's fracture) without pain at this time. In the case of dense cortical bone, duplication of the original mechanical properties does not begin to occur until three or four months, and probably continues in the strengthening process for a number of additional months. The fibula falls into this category. Since it is not in the direct line of "dead weight" bearing, a fractured fibular shaft can probably tolerate gentle ambulation on level ground (no significant use of inverters or everters) at three to six weeks, but it will be somewhat longer before the forcible bursts of inversion, eversion, and sheer acceleration of a cutting halfback can be efficiently and painlessly tolerated.

The concept of weightbearing is best related to the grocer's scale. The concept of load bearing by musculoskeletal members, each superbly crafted by their Creator and fine tuned by the history of applied loads, is best related to that multiplicity of coordinated accelerations that we term athletics. To keep the distinction well in mind is to retain the capacity to appropriately advise and treat our athletic patients.

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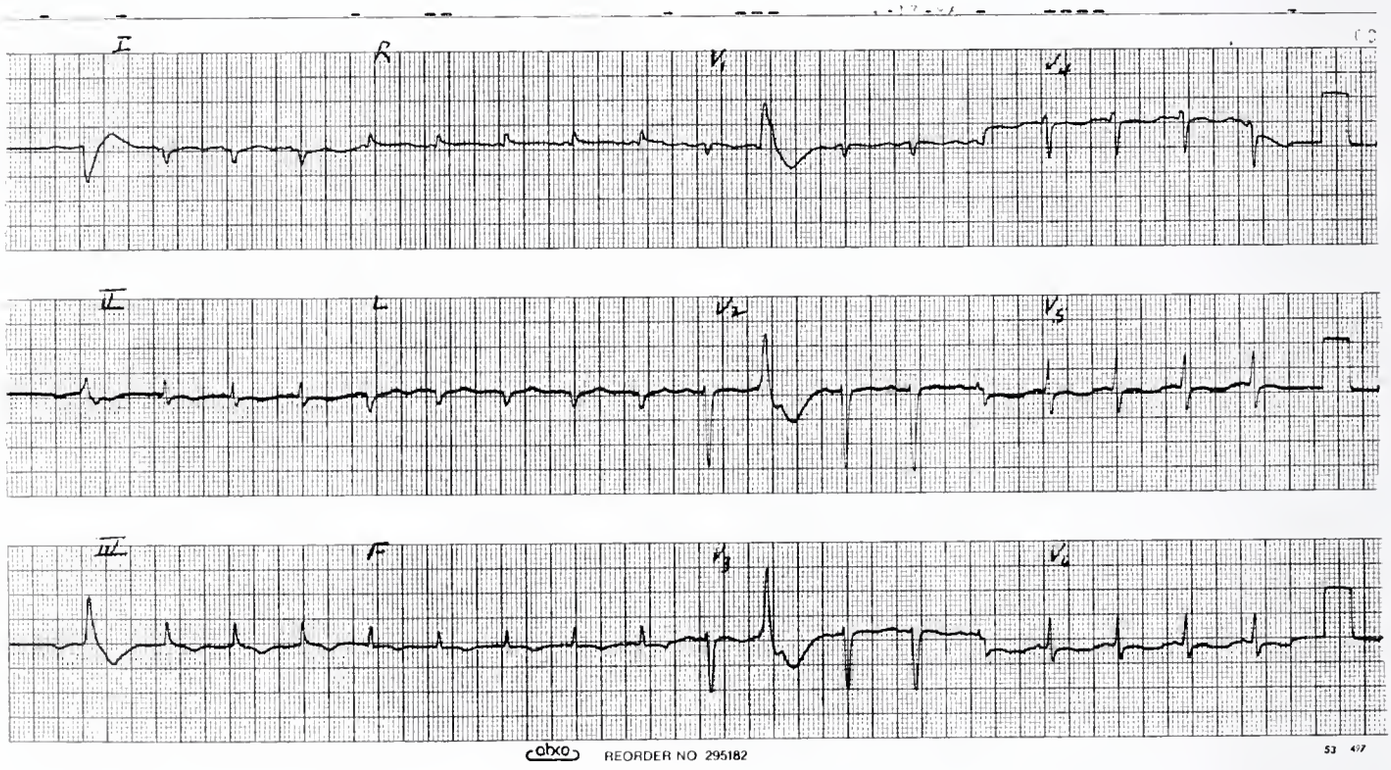
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ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 332)

HISTORY: C. M. is a 35-year-old woman who has presented with the acute development of shortness of breath. She is obese, smokes, and uses oral agents of contraception. Her examination shows massive obesity. An old electrocardiogram was normal. Her current ches film is normal. The current ECG is shown. What do you think?



Sam Daniel, M.D., and John W. Watson, M.D.
UAMS - LRVAH Division of Cardiology
Little Rock, Arkansas

Malignant Lymphoma

S. William Ross, M.D., William E. Atkinson, M.D., H. Howard Cockrill, Jr., M.D., and W. Ducote Haynes, M.D.*

PROBLEM

A 54-year-old woman with a previous diagnosis of nodular poorly differentiated lymphocytic lymphoma of the right groin presented for discussion of her treatment options. She reported that her physician had said treatment was not indicated at this time. Approximately four weeks earlier she had noticed a knot in her right groin, and a 5 cm lymph node was excised the following week. She claimed to have been in fairly good health except for a persistent cough that had lasted the past eight or nine months. Upon questioning it was learned that the patient had quit smoking seven years ago.

DIAGNOSTIC X-RAY REVIEW

Dr. Cockrill: The patient's x-rays revealed two abnormalities: (1) increased density measuring approximately 4 cm in the left hilar area on chest film, and (2) an enlarged retrocrural node on computerized tomography (CT). The CT scans of the abdomen and pelvis revealed no other evidence of disease, but a CT of the chest was not available for review. Therefore, it was recommended that a CT scan of the chest be made in order to better define the thoracic and mediastinal lymphadenopathy. A skinny needle biopsy was also recommended in order to find whether the adenopathy represented lymphoma, carcinoma, or granuloma.

PATHOLOGY REVIEW

Dr. Atkinson: The histopathologic material from the right groin lymph node as well as the bone marrow biopsy and aspirate was examined. We agreed with the previous diagnosis that the patient had nodular lymphoma and that no lymphoma was found to be present in the bone marrow. We also agreed that a skinny needle biopsy was needed in order to rule out malignancy in the chest area.

*St. Vincent Infirmary Cancer Center, St. Vincent Infirmary, Two St. Vincent Circle, Little Rock, Arkansas.

MEDICAL ONCOLOGY REVIEW

Dr. Ross: Since the two lesions could be separate diseases or they could both be lymphoma, we do not recommend treatment at this time. If the lymphoma is localized and found to be only in the groin area, this would be a Stage I lymphoma and could be treated with radiation.[1,2] If the lymphoma is not localized and the lesion in the chest turns out to be lymphoma, this patient's lymphoma would be classified as Stage III A (asymptomatic). A Stage III tumor would not benefit from chemotherapy until such time as the patient becomes symptomatic.

More than 90% of the patients who present with a low-grade lymphoma in one area generally have occult disease elsewhere.[3] Generalized low-grade lymphomas are not curable but can be controlled and treated.[4] Patients with Stage III low-grade lymphoma can sometimes live for years with little or no treatment.[3] Treatment for Stage III low-grade lymphoma is indicated when symptoms appear, and we were concerned that the cough might be related to the lesion seen in the chest area. The panel agreed that a CT scan of the chest and a skinny needle biopsy were needed in order to identify the disease in the chest area.

RADIOTHERAPY OPINION

Dr. Haynes: Radiation would be used only if the disease is localized. We did not recommend radiation at this time because of the unidentified area in the chest. If the area in the chest turns out not to be cancer, we would want to reevaluate the need to radiate the groin. If the patient has lymphoma in both the chest and the groin areas, we would recommend that the patient wait for treatment until symptoms occur.[4]

CONSENSUS

This patient had nodular poorly differentiated lymphocytic lymphoma of the right groin and an unidentified lesion in the chest area. We agreed that a CT scan and a skinny needle biopsy were

needed to identify the area in the chest. If both areas are lymphoma, no treatment was recommended until symptoms appear.[4] If the area in the chest is not cancer, the lymphoma in the groin could be treated with radiation.[1,2]

ACKNOWLEDGMENT

The authors wish to thank Marjorie McMinn for her editorial assistance in the preparation of this manuscript.

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ANSWER — Electrocardiogram of the Month

DISCUSSION: The ECG shows sinus tachycardia, two ventricular ectopic beats, right oxis deviation, ond nonspecific ST-T changes. Her most graphic change is the presence of right axis deviation which evidently stands as a chonge in comporison to her previous electracardiograms. The changes thot may on occasion be seen in patients with pulmonary embolic events are multiple. Right axis deviation is one of the more common changes that one can expect to see. The patient's history, the normol chest film, and the ECG all stand as reasons to suspect a pulmonary embolic event.

MEDICINE IN THE NEWS



ASIM BEGINS "PERSONAL CARE" PROGRAM

The 147-member House of Delegates of the American Society of Internal Medicine (ASIM), meeting in Seattle during the organization's 30th Annual Meeting, unanimously endorsed a new voluntary initiative to help internists across the country serve their elderly patients better. Internists are the major providers of continuing, comprehensive care to adolescents and adults in the country and, as such, treat 43% of the Medicare patients.

Registered under the trademarked name "Personal Care. There's More Than One Kind," ASIM's voluntary program is open to practicing internists who formally agree to notify their Medicare patients *in writing* that they and their office staffs are willing to do three things for their elderly patients. In writing, the physician will explain billing and payment arrangements, help patients file claims and obtain proper reimbursement, and make special arrangements for those having unusual financial difficulties.

"I am absolutely convinced that most internists are already doing these things on an informal basis in their practices," said F. Warren Tingley, M.D., who practices in Arlington, Texas and was installed as ASIM president at the meeting. "However, many people do not know these things are going on, so we decided to formalize a program in which internists could voluntarily enroll and publicize it to their patients. We believe that such voluntary private sector initiatives will make the individual claim-by-claim assignment option work even better for patients and physicians. But most important, we are saying that no Medicare patient should feel unable to obtain medical services, especially in difficult financial times."

For information or to obtain an enrollment packet for ASIM's "Personal Care" program, contact ASIM, 1101 Vermont Avenue, N.W., Suite 500, Washington, D. C.; (202) 289-1700.

EYES A SUCCESS

The toll-free Helpline that provides medical eye care for older Americans—1-800-222-EYES—recently received its 100,000 call.

"Through this outreach effort," said James H. Landers, M.D., president of the Arkansas Ophthalmological Society, "we are providing medical eye care for older people whose sight is threatened by diseases like macular degeneration, cataracts and diabetic retinopathy. We want to let people know that deteriorating eyesight in their later years can be prevented."

A total of 1,037 Arkansas residents have called the service, and 691 have been referred to volunteer ophthalmologists. Of the 100,000 callers nationwide, 66,200 have been referred and more than 16,000 have been treated for sight-threatening eye diseases. Thirty-four percent of these patients had *never* had an eye exam until they call Helpline.

HIV ANTIBODY FILM AVAILABLE

A short docudrama entitled "Counseling the HIV Antibody Positive Patient" is now available to physicians when counseling patients with the positive test results. The film was designed and produced to provide physicians with a positive example of a successful counseling session between a doctor and an AIDS antibody positive patient. The purpose of the film is to enhance the AIDS prevention program by reinforcing the physician's ability to counsel and educate the antibody positive—infective and contagious—patient.

The film was produced by the Los Angeles County Medical Association and the Los Angeles County Department of Health Services. A videotape (VHS) of the film is available for $35.00 and a three-quarter inch tape is available for $55.00. For more information, contact David I. Zeitlin, Director of Communications, LACMA, 1925 Wilshire Boulevard, Los Angeles, CA 90057.

CHAMPUS TO SHARE TRANSPLANT COSTS

CHAMPUS officials have announced that, on a limited basis, the program will share the cost of heart transplants for CHAMPUS-eligible patients. The coverage was effective in November, 1986.

CHAMPUS will cover the necessary tests to evaluate a potential candidate's suitability, medically necessary pre- and post-transplant inpatient and outpatient services, surgical services and related services of the transplant team, services

provided by the transportation team with the donor organ, blood and blood products, and a variety of other services which are commonly needed before, during and after a transplant operation.

The limitations include that the transplant be done at a CHAMPUS-approved heart transplant center and that the patient be suffering from end-stage cardiac disease which has not responded to, or no longer responds to, other medical and surgical therapies. In addition, the patient must not be suffering from other complicating factors such as advanced age, chronic pulmonary disease, hypertension, irreversible renal or hepatic dysfunction and other negative factors which may affect the patient's chances for a successful transplant.

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keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

MYOCARDIAL ISCHEMIA AND HEART DISEASE IN 1987

February 21, 1987. Sponsored by the Baptist Medical Center and the Arkansas Cardiovascular Institute. Registration at 8:30 a.m., lectures until 3:00 p.m. Speakers and topics are: "The Effects of Myocardial Ischemia", Richard B. Whiting, M.D., St. Louis University Hospitals; "Current Therapy in Angina", David L. Pearle, M.D., Georgetown University Hospital; "Balloons and the Heart: Coronary Angioplasty in 1987", Randal Hundley, M.D., Little Rock; "Advances in Therapy in Congestive Health Failure", Martin A. Alpert, M.D., Harry S. Truman Memorial Veteran's Hospital; and "When All Else Fails; Cardiac Transplant", James B. Young, M.D., Ben Taub General Hospital. Category I credit available on an hour by hour basis.

INTRODUCTION TO INTERLOCKING INTERMEDULLARY NAILS

February 27-28, 1987. Presented by Mark P. McAndrew, M.D. Sponsored by the UAMS Office of Continuing Education for Physicians. UAMS Education Building, 8th floor laboratories. Friday, 7:30 a.m.-4:30 p.m.; Saturday, 8:00 a.m.-2:30 p.m. Fee: $250.00. Twelve Category I credit hours available.

22ND ANNUAL SURGICAL SYMPOSIUM

March 26-28, 1987. Presented by Robert W. Barnes, M.D. Sponsored by the UAMS Office of Continuing Education for Physicians. Arlington Hotel, Hot Springs, Arkansas. Fee: $75.00 non-ACS members; $25.00 members of Arkansas Chapter of the American College of Surgeons. 6.5 credit hours of Category I credit tentatively available.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one or two hours Category 1 credit.

EL DORADO — AHEC

Behavioral Sciences Conference, first and fourth Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:00 p.m., Warner Brown Hospital.
Gynecology-Pathology Conference, second Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Pathology Conference, second Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Obstetrics-Gynecology Conference, fourth Thursday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Surgical Conference, first, second, and third Monday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Tumor Clinic, fourth Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.

FAYETTEVILLE — AHEC-NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Medical Conference, fourth Wednesday, 12:00 noon, Conference Room, Building 1, VAMC.
Pathology/Mortality Conference, first Wednesday, 12:00 noon, Conference Room, Building 1, VAMC.

Radiology Conference, second Wednesday, 12:00 noon, Conference Room, Building 1, VAMC.
Surgical Pathology Conference, third Wednesday, 12:00 noon, Conference Room, Building 1, VAMC.

FORT SMITH — AHEC

Cardiology Conference, first Wednesday, 12:30 p.m., Sparks Regional Medical Center.
Dermatology Conference, first Thursday, 12:30 p.m., Sparks Regional Medical Center, Library.
Family Practice Conference, third Wednesday, 12:30 p.m., Sparks Regional Medical Center, Library.
Gastroenterology Conference, first Friday, 12:30 p.m., Sparks Regional Medical Center, Library.
Neurology Conference, second Thursday, 12:30 p.m., Sparks Regional Medical Center.
Obstetrical/Gynecology Conference, third Thursday, 12:30 p.m., Sparks Regional Medical Center, Library.
Thoracic/Cardiovascular Conference, third Thursday, 12:30 p.m., Sparks Regional Medical Center, Library.

HOT SPRINGS — AMI NATIONAL PARK MEDICAL CENTER

Continuing Medical Education Luncheon, varying topics, second and fourth Friday, 12:30 p.m., Classrooms, AMI National Park Medical Center.

JONESBORO — AHEC-NORTHEAST

AHEC Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., Arkansas Methodist Hospital, Paragould.
Chest Conference, second Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Independence County Medical Society Conference, second Tuesday, 7:30 p.m., White River Medical Center, Batesville.
Interesting Case Conference, second and fifth Tuesday, when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Kennett Tumor Conference, second Tuesday, alternating months beginning with December, 1986, Twin Rivers Regional Medical Center, Kennett, MO.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Cafeteria, Methodist Hospital of Jonesboro.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Neurological/Neurosurgical Lecture Series, every other Monday, 7:00 a.m., St. Bernard's Dietary Conference Room.
Newport Tumor Conference, second Wednesday, 12:00 noon, rotates each month between Harris Clinic and Newport Hospital.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Alternating Sub-Specialty Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
General Pediatrics Seminar, first and third Friday, 12:00 noon, Second Floor Classroom.
Genetics Conference, each Wednesday, 12:00 noon, ACH Clinic Conference Room.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Oncology Conference, third Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Pediatric Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pediatric Neuroscience Conference, first Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Pharmacology Conference, fifth Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Radiology Conference, first and third Thursday, 12:00 noon, Second Floor Classroom.
Pediatric Research Conference, third Monday, 12:00 noon, Second Floor Classroom.
Problem Case Conference, second and fourth Friday, 12:00 noon, Second Floor Classroom.
Respiratory Care Case Conference, each Monday, 3:00 p.m., Second Floor Classroom.

LITTLE ROCK — ST. VINCENT INFIRMARY

Cancer Conference, first Wednesday, 12:00 noon, CARTI Auditorium. A meal is provided.
Cancer Conference, third and fourth Thursday, 12:00 noon, Room S1174K, Laboratory. A meal is provided.
General Medicine Journal Club, each, 12:00 noon, Medical Affairs Conference Room. Bring your lunch.
Hematology-Oncology Conference, second Thursday, 12:00 noon, Laboratory Library. A meal is provided.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m., Classroom 1, Education Wing. Refreshments are provided.
Neuropathology Conference, third Tuesday, 5:00 p.m., Room S1174K, Laboratory. Refreshments are provided.
Pediatric Conference, first Tuesday, 12:30 p.m., Classroom 1, Education Wing. A meal is provided.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m., Classroom 1, Education Wing. A meal is provided.
Pulmonary Conference, second and fourth Wednesday, 12:00 noon, Classroom 1, Education Wing. A meal is provided.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Anesthesia Lecture Series, each Tuesday, 7:00 a.m.; each Wednesday, 4:00 p.m., UAMS Education Building, Room G/106.
Anesthesia Morbidity and Mortality Conference, each Thursday, 4:00 p.m., UAMS Education Building, Room G/106.
Arkansas State Hospital Psychiatric Service, each Tuesday, 12:00 noon, Arkansas State Hospital, Administration Wing, 3rd Floor Conference Room.
GI Basic Science Conference, each Thursday, 7:30 a.m., UAMS Education Building, Room G/108 A & B.
Interdisciplinary Gynecologic Cancer Conference, each Friday, 12:30 p.m., UAMS Education Building, Room G/106 A & B.
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.

Medicine Research Conference, each Tuesday, 8:00 a.m., UAMS Shorey Building, Room 8/105.
OB/Gyn Grand Rounds, each Wednesday, 7:30 a.m., UAMS Education Building, Room G/141B.
Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m., UAMS AAC Eye Clinic, Room 3/150. 2 hours credit.
Orthopaedic Fracture Conference, each Tuesday, 7:30 a.m., UAMS Education Building, Room B/135.
Orthopaedic Basic Science Conference, each Tuesday, 11:00 a.m., UAMS Education Building, Room B/135.
Orthopaedic Bibliography Conference, each Tuesday, 8:30 a.m., UAMS Education Building, Room B/135. 1½ hours credit.
Orthopaedic Grand Rounds, each Tuesday, 10:00 a.m., UAMS Education Building, Room B/135.
Psychiatry Grand Rounds, each Friday, 11:00 a.m., UAMS Shorey Auditorium.
St. Vincent Urology Grand Rounds, first Tuesday, 5:30 p.m., St. Vincent Infirmary, Education Building, Room 159.
Surgery Grand Rounds, each Saturday, 9:00 a.m., UAMS Education Building, Room G/131.
Surgical Science Conference, each Saturday, 8:00 a.m., UAMS Education Building, Room G/131.
Urology Grand Rounds/Urologic Topics, two to three times monthly (each), 5:00 p.m., UAMS or VAMC.
Urology Morbidity and Mortality Workshop/Uro-Radiology Workshop, once monthly, 5:00 p.m., UAMS (dates vary).
VA Medical Service Teaching Conference, each Thursday, 8:00 a.m., NLRVA, Building 66, Room 38.
VA Research Methods Conference, varying Wednesdays, 12:00 noon, LRVA, 1E122.
VA Surgery Grand Rounds, each Thursday, 12:45 p.m., LRVA, Room 2D109.
VA Topics in Rehabilitation Medicine, each Thursday, 7:45 a.m., NLRVA, Building 89L.
VA Weekly Cancer Conference, (Surgical Service), each Tuesday, 1:00 p.m., LRVA, Room 2D109.

LITTLE ROCK — BAPTIST MEDICAL CENTER
Anesthesiology Conference, third Thursday, 7:00 a.m., Conference Room 1.
Grand Rounds Conference, each Wednesday, 12:00 noon, Conference Room 1. Lectures and Case Presentations. A light lunch will be served.
Pathology Conference, third Tuesday, 3:00 p.m., Pathology Library, Case Presentations.
Pulmonary Conference, each Tuesday, 12:00 noon, Shuffield Auditorium. Lunch served for $1.75.
Surgery Conference, each Thursday, 7:30 a.m., Conference Room 2. Lectures and Case Presentations.

PINE BLUFF — AHEC
Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC
Chest Conference, third Wednesday, 12:30 p.m., St. Michael Hospital.
Neuro-Radiology Conference, second and fourth Wednesday, 7:00 a.m. breakfast, Wadley Regional Medical Center.
Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.

As organizations accredited for continuing medical education by the Accrediation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

THINGS TO COME



February-April 1987

Twenty-Eighth Annual Postgraduate Institute for Pathologists in Clinical Cytopathology. Sponsored by the Johns Hopkins University School of Medicine. *February through April 1987, Home Study Course A* is provided each registrant for personal reading and microscopic study at their own laboratory in preparation for Course B; and *April 27 to May 8, 1987 Course B* is a concentrated lecture series, laboratory studies and clinical experience at the Johns Hopkins Medical Institutions, Baltimore, Maryland. 152 AMA Category I hours—must take both courses to receive credit. For more information contact: John K. Frost, M.D., 604 Pathology Building, The Johns Hopkins Hospital, Baltimore, Maryland, 21205; (301) 955-3522.

March 1-7

Internal Medicine Symposium. Sponsored by the University of Kansas Medical Center. Cancun, Mexico. 10 Category I credit hours. For

further information contact: Eileen Buttron, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103; (913) 588-4494.

March 3-13

Hawaii 87: Critical Issues in Primary Care. Sponsored by the Pacific Institute of Continuing Medical Education and the Hawaii Medical Association. Waiohai Hotel, Poipu Beach, Kauai, Hawaii. 20 Category I credit hours. For more information contact: Ms. Valerie Murray, The Pacific Institute of Continuing Medical Education, Post Office Box 1059, Koloa, Hawaii 96756; (808) 742-7471.

March 6-7

Cardiology Department Management Conference. Sponsored by the Institute for Medical Studies. New Orleans, Louisiana. 10 hours Category I Credit. Fee: $350.00. For more information contact: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Laguna Niguel, CA 92677; (714) 495-4499.

March 7-8

Breast Imaging Update. Sponsored by the University of California, San Francisco. Fairmont Hotel, San Francisco. 13 hours Category I credit available. Fee: $295 for physicians. $195 for residents, fellows, technologists and nurses with letter of verification. For further information contact: Radiology Postgraduate Education, Room C324, University of California, Third and Parnassus, San Francisco, CA 94143; (415) 476-5731.

March 8-13

Annual Meeting of the United States-Canadian Division of the International Academy of Pathology. Palmer House, Chicago, Illinois. Scientific papers, poster sessions, specialty conferences, 44 short courses, 2 special courses and a long course will be presented. Three Category I credit hours for each course attended. For further information, contact: Dr. Nathan Kaufman, Secretary-Treasurer, United States-Canadian Division of the International Academy of Pathology, Building C, Suite B, 3515 Wheeler Road, Augusta, GA 30909; (404) 733-7550.

March 9-13

Thirtieth Annual Postgraduate Course in Diagnostic Radiology. Sponsored by the University of California, San Francisco. Fairmont Hotel, San Francisco. 34 hours Category I credit available. Fee: $495 for physicians, $395 for residents, fellows, nurses and technologists. For further information contact: Radiology Postgraduate Education, University of California, Third and Parnassus, Room C324, San Francisco, CA 94143; (415) 476-5731.

March 16-20

Multimodality Radiology Relevant to Clinical Practice. Sponsored by the University of California, San Francisco. Waiohai Hotel, Poipu Beach, Kauai, Hawaii. 24 Category I credit hours available for physicians; 24 contact hours for nurses if they attend the entire program; 24 ECE points for technologists. Fee: $495.00 for physicians; $395.00 for residents, fellows, technologists and nurses with letter of verification. For more information contact: Radiology Postgraduate Education, University of California, Third & Parnassus, Room C324, San Francisco, CA 94143; (415) 476-5731.

March 18-21

Third National Leukemia Society Medical Symposium. Sponsored by the Leukemia Society of America. San Diego, California, Town and Country Hotel. 17 Category I credit hours for physicians; 20.7 contact hours for nurses. For more information, contact: Leukemia Society of America, 733 Third Avenue, New York, New York 10017; (212) 573-8184.

March 22-27

Ninth Annual Winter Psychiatry Conference: "Times of Crisis: Adolescence and Aging". Sponsored by the Karl Menninger School of Psychiatry and Mental Health Sciences and the Division of Continuing Education. Yarrow Hotel and Conference Center, Park City, Utah. 26 hours Category I credit available. Fee: Physicians, $345 prior to February 3, 1987 and $365 after this date. Psychiatry Residents (with letter of verification from supervisor): $220 prior to February 3, 1987 and $240 after this date. Additional $15 per optional workshop selected. Registration deadline of February 19, 1987. Advance registration is required. For more information contact: Brenda Vink, Conference Coordinator, Division of Continuing Education, The Menninger Foundation, Box 829, Topeka, Kansas 66601; (913) 273-7500, ext. 5992.

March 29-April 1

Cardiology Update. Sponsored by the Institute of Medical Studies. Phoenix, Arizona. 26 hours

Category I credit. Fee: $395.00. For more information contact: List Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Laguna Niguel, CA 92677; (714) 495-4499.

April 10-11

Hypertension: New Directions. Spousored by the University of Kentucky. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit available. For further information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, KY 50536; (606) 233-5161.

April 9-11

Thoracic Imaging Update. Sponsored by the University of California, San Francisco. Monterey, California. 13 hours Category I credit available. Fee: $295 for physicians, $195 for residents, fellows, technologists and nurses with letter of verification. For further information contact: Radiology Postgraduate Education, Room C324, University of California, Third and Parnassus, San Francisco, CA 94143; (415) 476-5731.

April 10-12

Contact Lens Workshop. Sponsored by the University of Kentucky. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit available. For further information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, KY 50536; (606) 233-5161.

April 11-12

Ob/Gyn and Abdominal Sonography: Update 1987. Sponsored by the University of California, San Francisco. Hyatt Union Square Hotel, San Francisco. 14½ hours Category I credit available. Fee: $325 for physicians, $225 for residents, fellows, technologists and nurses with letter of verification. For further information contact: Radiology postgraduate Education, Room C324, University of California, Third and Parnassus, San Francisco, CA 94143; (415) 476-5731.

April 22-25

Symposium on Options in Managing Children with Infections and Sixth Annual Pediatric Infectious Disease Seminar. Sponsored by the University of Texas Health Science Center, Department of Pediatrics. Las Vegas Hilton Hotel, Las Vegas, Nevada. 22 Category I credit hours, 19 PREP credits and 18.75 prescribed hours AAFP. Fee: $300.00 physicians; $225.00 residents, fellows, PA's and PNP's. For more information contact: Marian Troup, Seminar Coordinator, University of Texas Health Science Center, 5323 Harry Hines Blvd., Dallas, TX 75235; (214) 688-3439.

April 22-26

Comprehensive Review Course in Critical Care Medicine. Sponsored by the Center for Bio-Medical Communication and the George Washington University School of Medicine. Bethesda, Maryland. 31 Category I credit hours. Fee: $550.00 includes tuition, course materials and bibliography. For further information contact: The Center for Bio-Medical Communication, 491 Grand Avenue, Englewood, NJ 07631; (201) 568-9381.

April 24-25

Contemporary Pediatrics for the Practicing Physician. Sponsored by the University of Kentucky. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit available. For further information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine, Office Building, University of Kentucky, Lexington, KY 50536; (606) 233-5161.

April 25

Anticoagulant and Antithrombotic Therapy: State of the Art. Sponsored by the University of Kansas. Category I credit available. For further information contact: Eileen Buttron, University of Kansas Medical Center, Office of Continuing Education, 39th and Rainbow Blvd., Kansas City, KS 66103; (913) 588-4480.

April 25-26

Transurethral Ureteroscopy: A Seminar and Workshop. Sponsored by the University of California, San Diego. La Jolla Marriott, San Diego, California. 13 Category I credit hours. Fee: $375.00. For more information contact: Office of Continuing Medical Education, M-017 UC San Diego School of Medicine, La Jolla, CA 92093; (619) 534-3940 or (619) 452-3940.

May 2-9

Doppler and 2-D Echocardiography Symposium. Sponsored by the Institute for Medical Studies. Newport Beach, California. 40 hours Category I credit available. Fee: $895.00. For more information contact: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Lagnua Niguel, CA 92677; (714) 495-4499.

May 2-10

Fifth Annual London Spring Seminar in Medical Diagnostic Imaging. Sponsored by Medical Seminars International. London, England. 18 Category I hours available. Fee: $395 prior to February 28 and $435 after March 1, 1987. For more information contact: Spring Seminar, 21915 Roscoe Boulevard, Suite 222, Canoga Park, CA 91304; (818) 340-0580, ext. 280.

May 28-30

Forty-Ninth Annual Meeting of the Louisiana-Mississippi Ophthalmological and Otolaryngological Society. Sponsored by the LA-MS O & O Society. Broadwater Beach Hotel, Biloxi, Mississippi. For more information contact: La.-Miss. O & O Society, Post Office Box 12314, Jackson, MS 39236; (601) 956-7787.

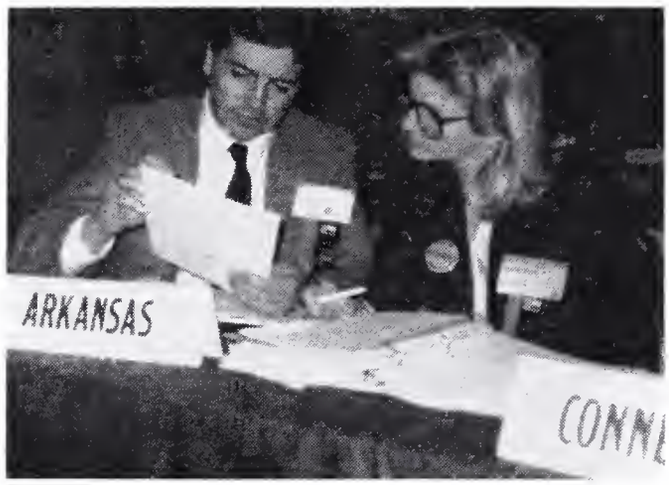
RESIDENT PHYSICIAN NEWS

For the first time, Arkansas was represented at the national level in the Resident Physician Section (RPS) of the American Medical Association (AMA). The delegates were Todd N. Holt, M.D., president of the Arkansas Resident Physician Section of the Arkansas Medical Society and Elicia Sinor, M.D., vice president of the RPS for Arkansas. Dr. Holt and Dr. Sinor attended the AMA meeting in Las Vegas, Nevada. The two also doubled as state AMA-RPS delegates and officers of the newly formed resident section of the state society.

The number of delegates are chosen from each state, according to the number of residents who are RPS-AMA members. In order to increase a state's delegate representation, a large number of residents must become AMA members. Arkansas currently has a total of 450 residents; 180 of which are AMA members. Arkansas' number of delegates could be increased to three if more than 90% of the residents in the state become AMA members. AMA delegates are chosen from the state resident association or the RPS-Arkansas Medical Society Section.

Dr. Sinor stated that she felt the whole meeting was "extremely enlightening and eye-opening. I was unaware of the impact resident physician members across the nation are making on health care problems today. Especially pertinent to Arkansas was the resolution passed by the RPS on teenage pregnancy."

Dr. Holt added that the issues of compulsory draft and armed service of newly graduated physicians, and student loan tax deductions were especially important. He said, "Congress is currently considering a physician draft to fill gaps in the armed services medical system. Young physicians may be forced to enter military service in order to fill these spaces." Dr. Holt also maintained that, "Students, especially graduate students, should continue to receive some tax break for interest on student loans." The new tax laws, effective in 1987, will gradually phase out the student loan deductions.



Dr. Elicia Sinor, vice president AMA-RPS, and Dr. Todd Holt, president, AMA-RPS, discuss the "teen pregnancy" resolution at the recent Interim American Medical Association meeting held in Las Vegas.

Holt and Sinor said the RPS Governing Board was very responsive to them and encouraged further participation by the delegates at the state and national level. Dr. Sinor said, "I know more young physicians will participate in health care policy-making once they realize the impact their opinion has when lobbied with other young physicians."

* * * *

The AMA-RPS membership drive is underway. The Resident Physician Section members plan to meet with all chief residents and ask for their assistance in getting the other residents to realize the importance of joining RPS. The AHEC chiefs are to be contacted as well. Pamphlets and applications describing the RPS are being designed and printed. The RPS hopes to have these distributed by the first of the year. The goal for the Resident Student Section is 100% membership.



PERSONAL AND NEWS ITEMS

Thomas Kelly, M.D., a general and vascular surgeon in Fort Smith, was elected to fellowship in the American College of Surgeons at the annual College Clinical Congress in New Orleans. Dr. Kelly practices at the Cooper Clinic.

The American Board of Pediatrics recently announced that *John W. Trieschmann, M.D.,* of Hot Springs, has met the requirements for recertification in general comprehensive pediatrics.

Kelsy J. Caplinger, M.D., a Little Rock allergist, has been named the president of the Alan Cazort Allergy Society of Arkansas, a statewide allergy society. *Dr. Russell Steele* was named secretary-treasurer.

The new national president of the Society of Obstetric Anesthesia and Perinatology for 1986-87 is *Richard B. Clark, M.D.* Dr. Clark is the director of obstetric anesthesia at the University of Arkansas for Medical Sciences.

Lawrence C. Price, M.D., an internist in Fort Smith, has been named director of the Area Health Education Center (AHEC) in Fort Smith. Dr. Price has been with AHEC since 1975 and replaces Dr. Annette V. Landrum as director.

The governor of Santa Cruz, Bolivia, recently presented *Dr. Hampton Roy* a diploma in recognition of his service to Santa Cruz. The award was presented at the Partners of the Americas Internation Convention. Dr. Roy is an ophthalmologist in Little Rock.

Seven Arkansas Charter members were named Fellows of the American Academy of Family Physicians at the convocation and inaugural ceremony held recently in Washington, D. C. during the Academy's Scientific Assembly. The physicians are: *Shannon Card, M.D.,* Berryville; *Thomas Eans, M.D.,* Heber Springs; *William Finfrock, M.D.,* Eureka Springs; *Douglas McGlothin, M.D.,* Jonesboro; *Bharathi Rangaswami, M.D.,* Helena; *John Scott, M.D.,* Batesville and *Benjamin Walsh, M.D.,* Crossett.

CORRECTION: In the October, 1986 issue of the Journal, we referred to Dennis Burrow, M.D., as an "emergency room physician" and that he had passed the exam for "emergency room medicine". It has been brought to our attention that these terms are considered antiquated. The terms should have been emergency physician or emergentologist, and emergency medicine or emergentology.



NEW MEMBERS

BAXTER COUNTY MEDICAL SOCIETY

CROOM, JAMES C., Internal Medicine, Mountain Home. Born Kennett, MO, February 7, 1957. Pre-medical education, University of Missouri, Kansas City. Medical Education, University of Missouri, Kansas City, School of Medicine, 1981. Internship and Residency, University of Tennessee, Memphis. Board eligible.

DIXON, GERALD R., Ophthalmology, Mountain Home. Born Wewoka, OK, March 31, 1932. Pre-medical education, Westminster College, Fulton, MO, B.A., 1954. Medical education, University of Oklahoma School of Medicine, 1958. Internship, University of Washington, Providence Hospital, Seattle, WA. Residency, Ophthalmology, Tulane University, New Orleans, LA. Private practice, Oklahoma City, 1962-1975; Altus, OK, 1975-1986; Mountain Home, present. Teaching appointments, Assistant Clinical Professor, Ophthalmology, University of Oklahoma Medical Center. Board certified, Ophthalmology.

TRAGER, MARC HARRIS, Radiology, Mountain Home. Born New York, NY, March 16, 1946. Pre-medical education, Tufts College, Boston,

B.A. Cum Laude, 1967. Medical education, Tufts University School of Medicine, Boston, 1971. Internship, St. Vincent's Hospital and Medical Center of New York. Residency, Tufts University, New England Baptist Hospital. Military record, USAF Hospital, Bergstrom AFB, Austin. Practice experience, University Community Hospital, Tampa, FL, 1978-1979; Bennett Hospital, Plantation, FL, 1980-1983; Medical City Dallas Hospital, Dallas, TX, 1983-present. Radiology Fellowship, University of Texas Herman Hospital, Houston, TX. Board certified, Radiology. Member, American College of Radiologists, RSNA, ARRA, AIUM, SNM, AMA, Texas Radiology Society, Texas Medical Association.

CRAIGHEAD-POINSETT COUNTY MEDICAL SOCIETY

BLACHLY, RONALD J., Internal Medicine, Jonesboro. Born Sacramento, CA, July 26, 1951. Pre-medical education, Harding College, Searcy, B.S., 1973. Medical education, University of Arkansas for Medical Sciences, 1979. Internship, University of Arkansas for Medical Sciences, Little Rock. Residency, Internal Medicine, UAMS, Little Rock. Fellowship, Hemaology-Oncology, UAMS. Teaching appointments, Instructor, Hematology/Oncology, UAMS. Diplomate, American Board of Internal Medicine.

CARPENTER, KENNAN, Family Practice, Jonesboro. Born North Little Rock, AR, December 19, 1953. Pre-medical education, Arkansas State University, B.S. Medical education, University of Arkansas for Medical Sciences, 1982. Internship, Area Health Education Center. Board certified.

JIU, JOHN B., Otolaryngology, Jonesboro. Born Greenville, MS, December 16, 1948. Pre-medical education, Mississippi State University, B.S., 1971. Medical education, University of Arkansas for Medical Sciences, 1981. Internship and Residency, University of Oklahoma Health Science Center, Oklahoma City. Board eligible.

ISAACSON, MICHAEL LINELL, Cardiology, Jonesboro. Born Shelbyville, TN, March 20, 1951. Pre-medical education, Rhodes College, Memphis, B.S., 1973. Medical education, University of Tennessee Medical School, 1977. Internship and Residency, Internal Medicine, University of Tennessee Center for Health Sciences (UTCHS), Memphis. Residency, Cardiology, UTCHS, Memphis. Practice experience, Emergency medicine, total three years full-time, four years part-time. Teaching appointments, Assistant Professor, Department of Medicine, UTCHS; Chief, Division of Emergency Medicine, UTCHS. Board certified, Internal Medicine and Emergency Medicine. Board eligible, Cardiology. Member, AMA, American College of Emergency Physicians and American College of Cardiology.

MOORE, STEVEN M., Diagnostic Radiology, Jonesboro. Born Little Rock, AR, April 4, 1955. Pre-medical education, Vanderbilt University, B.A., 1977. Medical education, University of Arkansas for Medical Sciences, 1981. Residency, University of Tennessee. Board certified. Member, RSNA.

INDEPENDENCE COUNTY MEDICAL SOCIETY

AKIN, CHARLES RAY, Internal Medicine, Batesville. Born Kennett, MO. Pre-medical education, University of Arkansas, B.A., 1979. Medical education, University of Arkansas for Medical Sciences, 1983. Internship and Residency, UAMS. Board eligible.

ZINI, JAMES E., Family Practice, Mountain View. Born Little Rock, AR, July 16, 1947. Pre-medical education, University of Arkansas at Little Rock, B.S., 1969. Medical education, University of Health Sciences, Kansas City, 1976. Internship, Normandy Osteopathic Hospitals, St. Louis, MO. Private practice, nine years, Mountain View. Board certified. Member, American Osteopathic Association, Arkansas Osteopathic Medical Association, American College of General Practitioners, Sigma Sigma Phi National Honorary Osteopathic Fraternity.

JEFFERSON COUNTY MEDICAL SOCIETY

TOATLEY, DONALD U., Obstetrics and Gynecology, Pine Bluff. Born Washington, D. C., March 11, 1954. Pre-medical education, George Washington University, Washington, D. C., B.S., 1978. Medical education, George Washington University, 1982. Internship and Residency, Georgetown University program, Providence Hospital, Washington, D. C. Teaching appointments, AHEC, Obstetrics/Gynecology. Board eligible. Member, American Fertility Society, ACOG, AAGL, NMA, AAPP.

WATSON, VYE BRANCH, Pediatrics, Pine Bluff. Born Watson, AR, July 29, 1956. Pre-medical education, University of Arkansas at Pine Bluff, B.S., 1978. Medical education, University of Arkansas for Medical Sciences, 1981 and Case Western Reserve University, Cleveland, OH, 1983. Internship, University Hospitals (Rainbow Babies' and Childrens' Hospital). Residency, Pediatrics, University Hospitals. Board eligible. Member, American Academy of Pediatrics, AMA.

POPE COUNTY MEDICAL SOCIETY

MYERS, GARY DEAN, General Surgery, Russellville. Born Bartlesville, OK, February 8, 1954. Pre-medical education, University of Oklahoma, B.S., 1976. Medical education, University of Oklahoma, 1980. Internship and Residency, University of Oklahoma, General Surgery. Practice experience, five years, University of Oklahoma, Dept. of Surgery (Residency) and one year, Ochsner Clinic, New Orleans, Vascular Fellowship. Board certified.

PULASKI COUNTY MEDICAL SOCIETY

GRANT, KAREN G., Obstetrics and Gynecology, Jacksonville. Born Swindon, England, July 18, 1953. Pre-medical education, Hendrix College, Conway, B.A., 1975. Medical education, University of Arkansas for Medical Sciences, 1979. Internship and Residency, University of Tennessee, Chattanooga, Ob/Gyn.

GREEN, BENNY JAMES, Family Practice, Little Rock. Born Little Rock, AR, November 5, 1953. Pre-medical education, University of Arkansas, Fayetteville, B.S., M.S., 1978. Medical education, University of Arkansas for Medical Sciences, 1983. Internship and Residency, AHEC, Jonesboro, Family Medicine. Board eligible.



OBITUARY

DR. LEE ANDREW DEAN

Dr. Lee Andrew Dean, 72, of Rogers, died Monday, November 24, 1986. Dr. Dean was a psychiatrist and a physician. He was a member of the Arkansas, Benton, and Jefferson County Medical Societies and the American Medical Association.

Dr. Dean was the medical director of the Jefferson County Mental Health Unit and a Naval Reserve and World War II Medical Corps veteran. He was also a member of the American Psychiatry Association.

Dr. Dean is survived by his wife, Mary Jane O'Brien Dean; a son, Robert Christopher Dean of Conway and four daughters, Lee Ann Ward of Fort Pierce, Florida; Ginger Scruggs and Marilyn Lanford, both of Little Rock; and Helen Jane Dean of West Helena.

DR. LOUISE McGAMMON HENRY

Dr. Louise McGammon Henry, of Fayetteville, died December 9, 1986. She was 84. Dr. Henry was an ophthalmologist and a member of the American Medical Association as well as a Life Member of the Arkansas Medical Society. She was also a member of the Sebastian and Washington County Medical Societies.

Dr. Henry was a former vice president of the Kansas City Ophthalmologists' Society and a member of the Fort Smith Chamber of Commerce. She also was a member of the Daughters of the American Colonists and the Daughters of the American Revolution.

Dr. Henry is survived by her husband, Dr. L. Murphy Henry and two sons, Dr. Herbert McGammon Henry of Bishop, Georgia and Dr. Morriss Henry of Fayetteville.

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BRIEF SUMMARY

CONTRAINDICATIONS
There are no known contraindications to the use of sucralfate

PRECAUTIONS
Duodenal ulcer is a chronic, recurrent disease. While short-term treatment with sucralfate can result in complete healing of the ulcer, a successful course of treatment with sucralfate should not be expected to alter the post-healing frequency or severity of duodenal ulceration.

Drug Interactions: Animal studies have shown that the simultaneous administration of CARAFATE with tetracycline, phenytoin, or cimetidine will result in a statistically significant reduction in the bioavailability of these agents. This interaction appears to be nonsystemic in origin, presumably resulting from these agents being bound by CARAFATE in the gastrointestinal tract. The bioavailability of these agents may be restored simply by separating the administration of these agents from that of CARAFATE by two hours. The clinical significance of these animal studies is yet to be defined.

Carcinogenesis, Mutagenesis, Impairment of Fertility: No evidence of drug-related tumorigenicity was found in chronic oral toxicity studies of 24 months' duration conducted in mice and rats at doses up to 1 gm/kg (12 times the human dose). A reproduction study in rats at doses up to 38 times the human dose did not reveal any indication of fertility impairment. Mutagenicity studies have not been conducted.

Pregnancy: Pregnancy Category B. Teratogenicity studies have been performed in mice, rats, and rabbits at doses up to 50 times the human dose and have revealed no evidence of harm to the fetus due to sucralfate. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when sucralfate is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS
Adverse reactions to sucralfate in clinical trials were minor and only rarely led to discontinuation of the drug. In studies involving over 2,500 patients, adverse effects were reported in 121 (4.7%). Constipation was the most frequent complaint (2.2%). Other adverse effects, reported in no more than one of every 350 patients, were diarrhea, nausea, gastric discomfort, indigestion, dry mouth, rash, pruritus, back pain, dizziness, sleepiness, and vertigo.

DOSAGE AND ADMINISTRATION
The recommended adult oral dosage for duodenal ulcer is 1 gm four times a day on an empty stomach.

Antacids may be prescribed as needed for relief of pain but should not be taken within one-half hour before or after sucralfate.

While healing with sucralfate may occur during the first week or two, treatment should be continued for 4 to 8 weeks unless healing has been demonstrated by x-ray or endoscopic examination.

HOW SUPPLIED
CARAFATE (sucralfate) 1-gm pink tablets are supplied in bottles of 100 and in Unit Dose Identification Paks of 100. The tablets are embossed with MARION/1712. Issued 3/84

References:
1. U.S. Department of Health, Education, and Welfare, Office of the Surgeon General, *Smoking and Health: A Report of the Surgeon General*. Rockville, MD, U.S. Department of Health, Education, and Welfare, Public Health Service, 1979.
2. Richardson CT. Pathogenetic factors in peptic ulcer disease. *Am J Med* 79 (suppl 2C):1-7, 1985.
3. Brandstaetter G, Kratochvil P. Comparison of two sucralfate dosages (2 g twice a day versus 1 g four times a day) in duodenal ulcer healing. *Am J Med* 79 (suppl 2C): 36-38, 1985.

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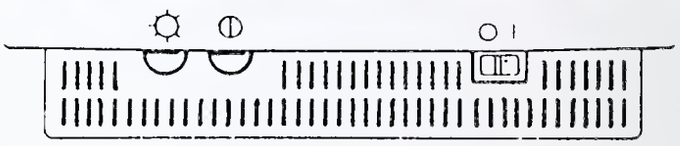
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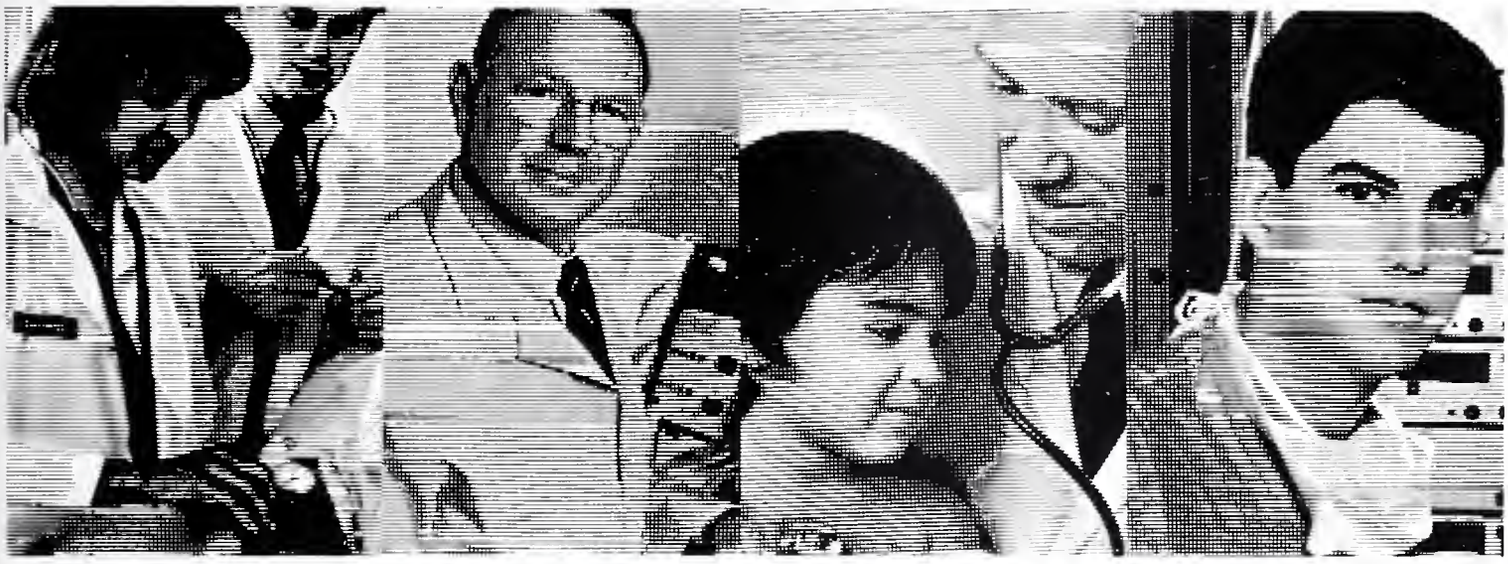
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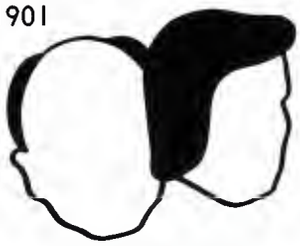
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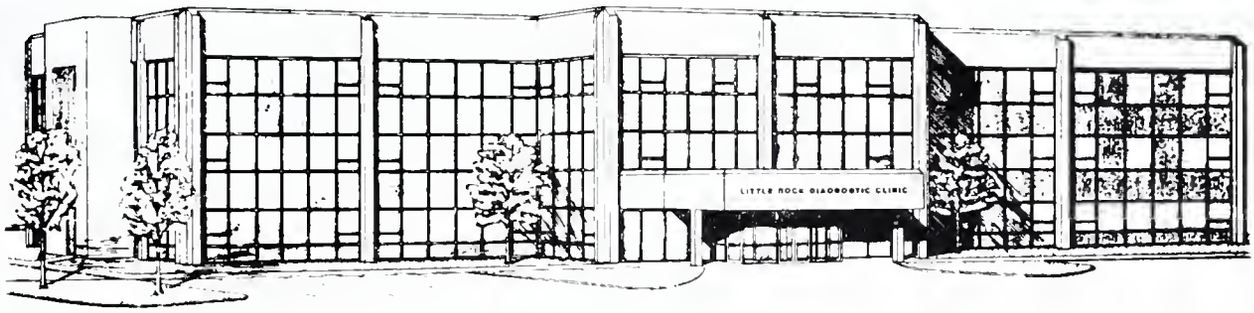
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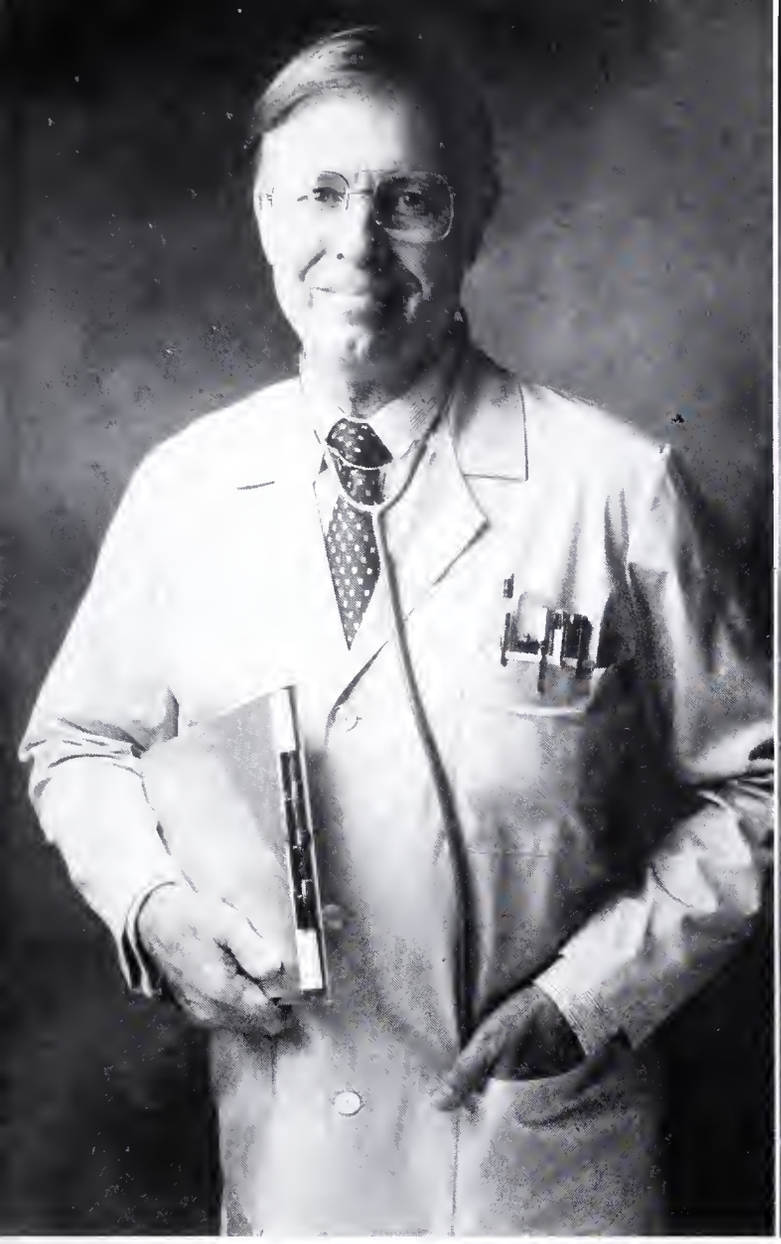
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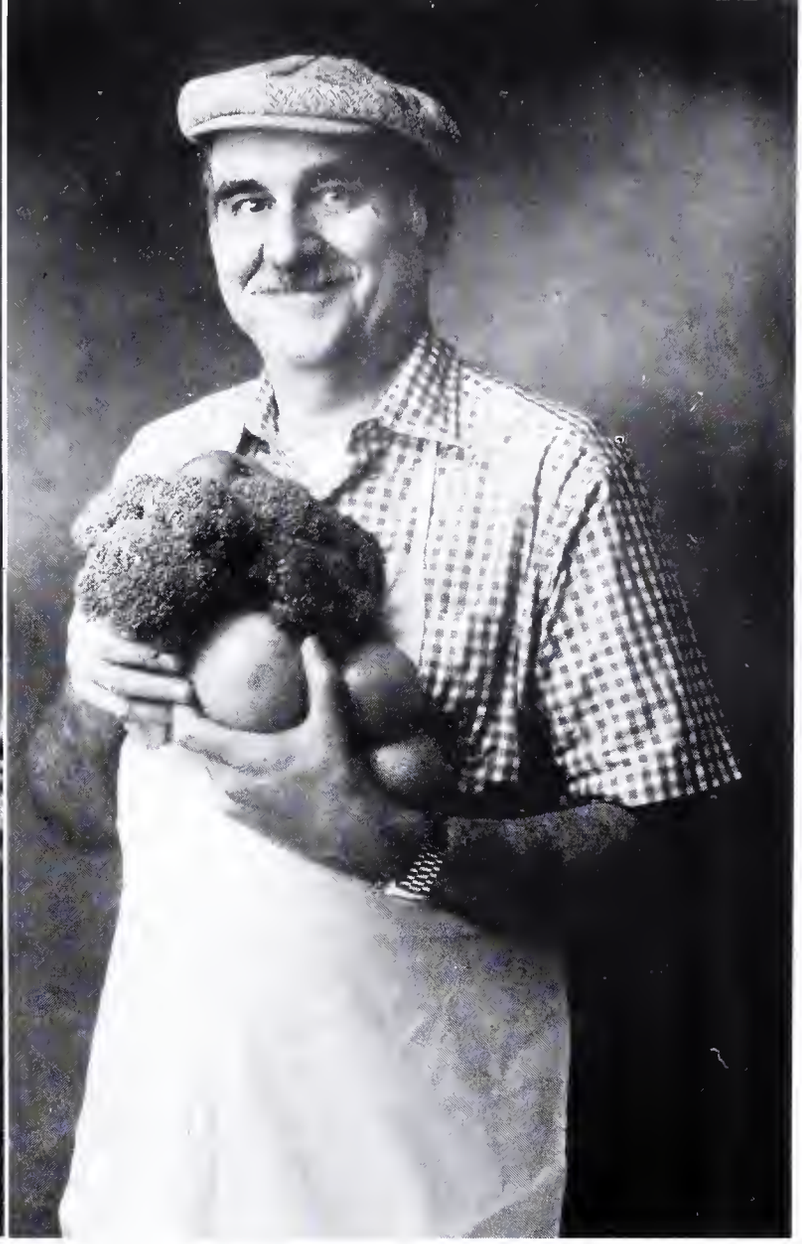
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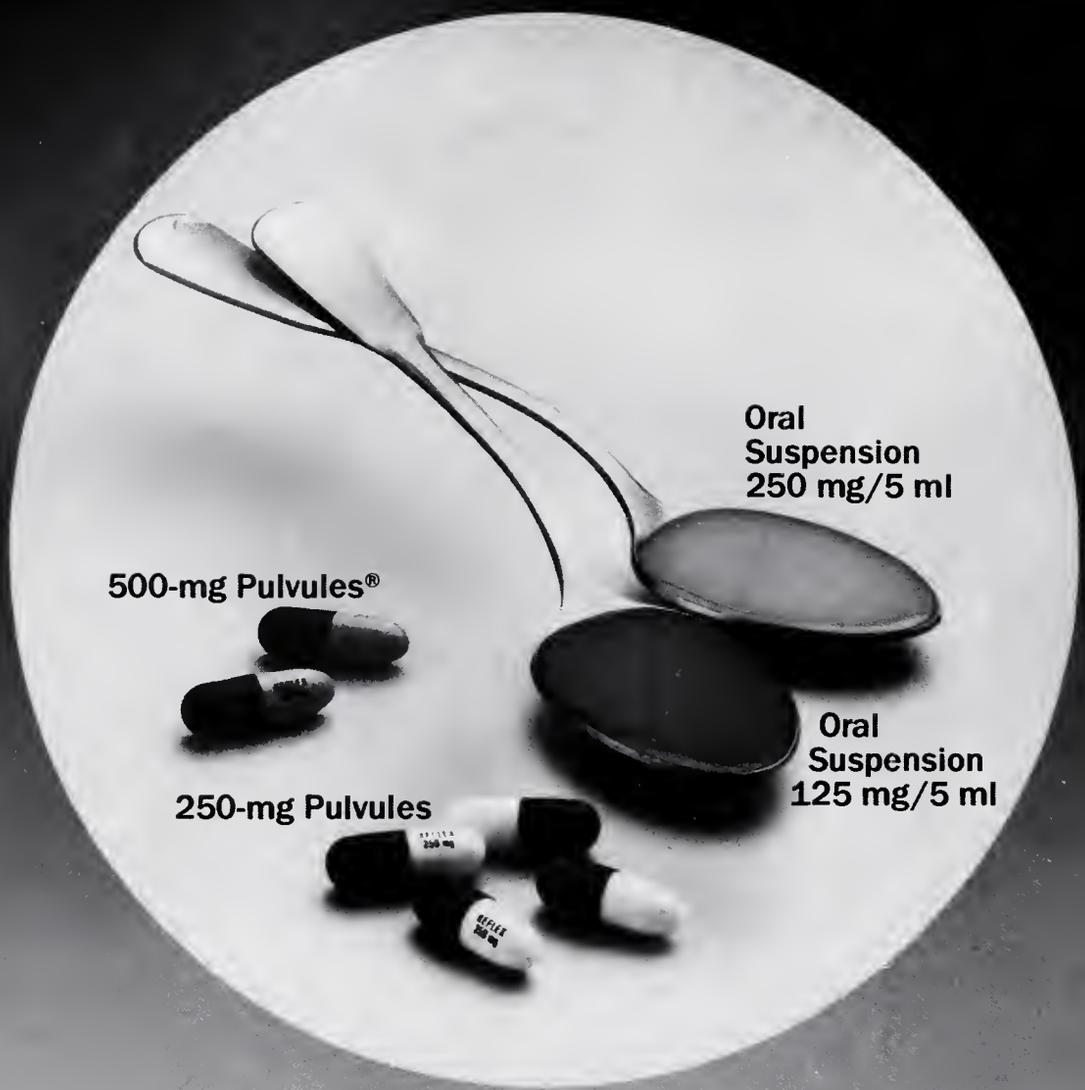
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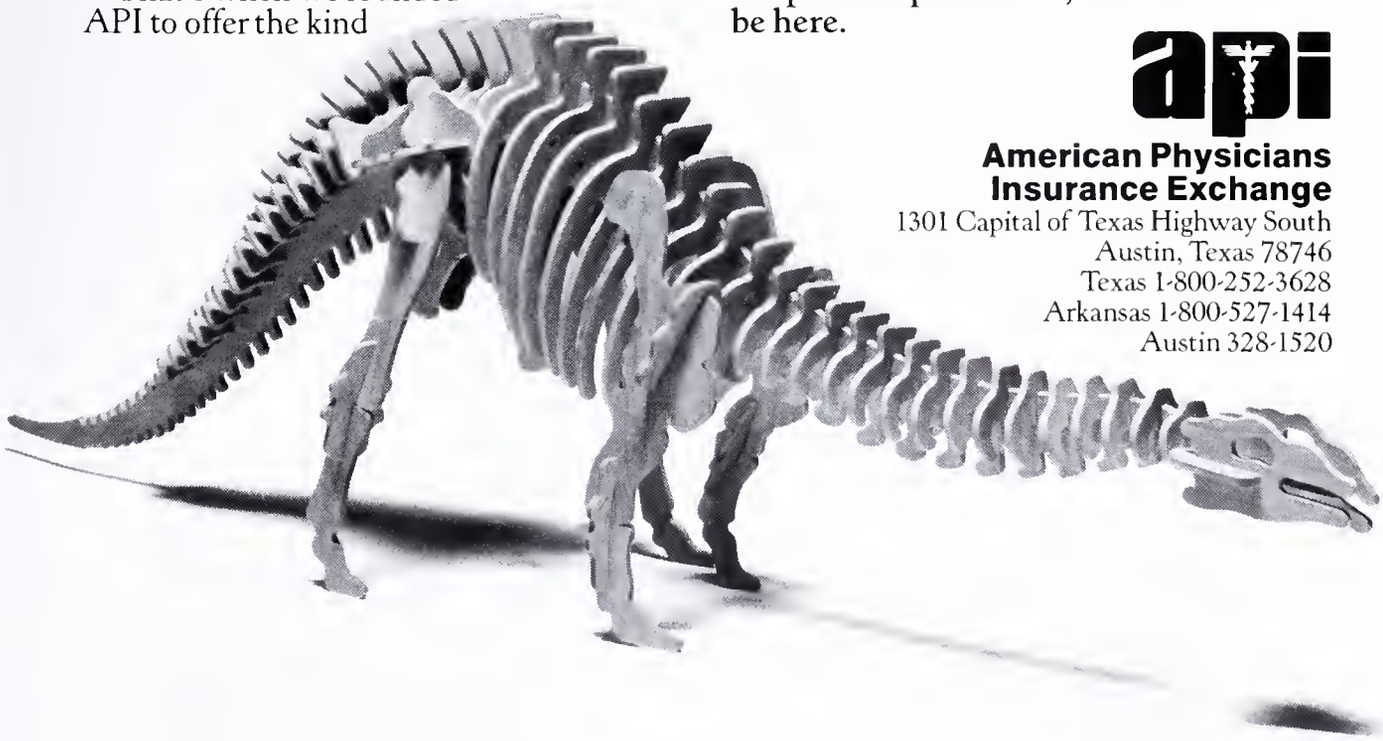
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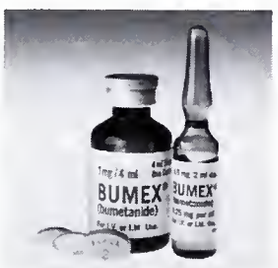
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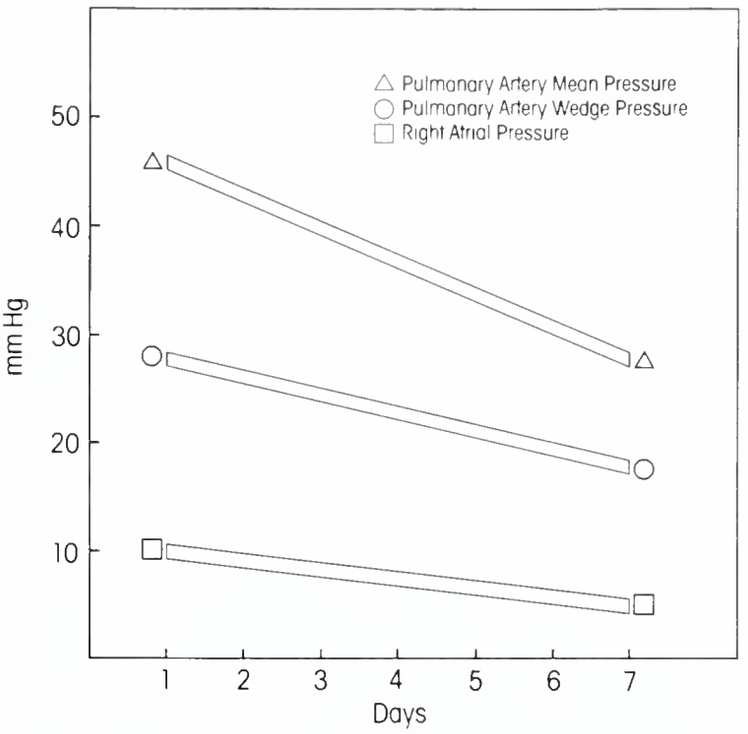
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Thoracic CT in the Staging of Lung Cancer 343

ORTHOPEDIC TRENDS

Impingement Syndrome of the Shoulder 347

CANCER MANAGEMENT

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SCIENTIFIC ARTICLES

"The Role of Thoracic CT in the Staging of Lung Carcinoma" 343
C. Barry Buckner, M.D., John C. Holder, M.D., John Pallin, M.D., Hemendra R. Shah, M.D., and Edwin Fontenot, M.D.

FEATURES

Orthopedic Trends: "Impingement Syndrome of the Shoulder" 347
Philip H. Johnson, M.D.

ECG of the Month 352

Cancer Management Problems: "Early Breast Cancer" 353
W. Ducote Haynes, M.D., W. E. Atkinson, M.D., W. Dale Morris, M.D., and Jack J. Sternberg, M.D.

From Other Years: "Thomas Edwin Rhine, M.D." 355
Pat Rhine Brown

Medicine in the News 356

Keeping Up 357

Things to Come 359

Personal and News Items 362

News Members 362

Obituary 364

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ZOVIRAX®
(acyclovir)
CAPSULES

Prevent genital herpes recurrences month after month with daily therapy.

(In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.)

Please see last page of this advertisement for brief summary of prescribing information.

ZOVIRAX® (acyclovir) CAPSULES

Help free your patients from recurrences.

Daily therapy

Coping with genital herpes is rarely easy. For some, the worst part is the pain and discomfort of frequent attacks—month after month, year after year. For others, the emotional burden presents a more difficult problem, leading to social isolation, anxiety, and diminished self-esteem.

Prevent or reduce recurrences

Although your patients have to live with herpes, they shouldn't have to suffer. Daily therapy with ZOVIRAX CAPSULES can help free them from the cycle of recurrent genital herpes. For many, one capsule three times a day can suppress recurrences completely while on therapy.

Generally well tolerated

Daily therapy with ZOVIRAX CAPSULES is generally well tolerated. The most frequent adverse reactions reported during clinical trials were headache, diarrhea, nausea/vomiting, vertigo, and arthralgia.

The physical and emotional difficulties posed by genital herpes are unique for each patient. The frequency and severity of recurrent episodes, as well as the emotional impact of the disease, should be considered when selecting daily therapy with ZOVIRAX CAPSULES.

Please see brief summary of prescribing information on next page.



Prevent recurrences month after month*

ZOVIRAX® (acyclovir) CAPSULES

Brief Summary

INDICATIONS AND USAGE: Zovirax Capsules are indicated for the treatment of initial episodes and the management of recurrent episodes of genital herpes in certain patients.

The severity of disease is variable depending upon the immune status of the patient, the frequency and duration of episodes, and the degree of cutaneous or systemic involvement. These factors should determine patient management, which may include symptomatic support and counseling only, or the institution of specific therapy. The physical, emotional and psychosocial difficulties posed by herpes infections as well as the degree of debilitation, particularly in immunocompromised patients, are unique for each patient, and the physician should determine therapeutic alternatives based on his or her understanding of the individual patient's needs. Thus Zovirax Capsules are not appropriate in treating all genital herpes infections. The following guidelines may be useful in weighing the benefit/risk considerations in specific disease categories:

First Episodes (primary and nonprimary infections — commonly known as initial genital herpes):

Double-blind, placebo-controlled studies have demonstrated that orally administered Zovirax significantly reduced the duration of acute infection (detection of virus in lesions by tissue culture) and lesion healing. The duration of pain and new lesion formation was decreased in some patient groups. The promptness of initiation of therapy and/or the patient's prior exposure to Herpes simplex virus may influence the degree of benefit from therapy. Patients with mild disease may derive less benefit than those with more severe episodes. In patients with extremely severe episodes, in which prostration, central nervous system involvement, urinary retention or inability to take oral medication require hospitalization and more aggressive management, therapy may be best initiated with intravenous Zovirax.

Recurrent Episodes:

Double-blind, placebo-controlled studies in patients with frequent recurrences (6 or more episodes per year) have shown that Zovirax Capsules given for 4 to 6 months prevented or reduced the frequency and/or severity of recurrences in greater than 95% of patients. Clinical recurrences were prevented in 40 to 75% of patients. Some patients experienced increased severity of the first episode following cessation of therapy; the severity of subsequent episodes and the effect on the natural history of the disease are still under study.

The safety and efficacy of orally administered acyclovir in the suppression of frequent episodes of genital herpes have been established only for up to 6 months. Chronic suppressive therapy is most appropriate when, in the judgement of the physician, the benefits of such a regimen outweigh known or potential adverse effects. In general, Zovirax Capsules should not be used for the suppression of recurrent disease in mildly affected patients. Unanswered questions concerning the human relevance of *in vitro* mutagenicity studies and reproductive toxicity studies in animals given very high doses of acyclovir for short periods (see Carcinogenesis, Mutagenesis, Impairment of Fertility) should be borne in mind when designing long-term management for individual patients. Discussion of these issues with patients will provide them the opportunity to weigh the potential for toxicity against the severity of their disease. Thus, this regimen should be considered only for appropriate patients and only for six months until the results of ongoing studies allow a more precise evaluation of the benefit/risk assessment of prolonged therapy.

Limited studies have shown that there are certain patients for whom intermittent short-term treatment of recurrent episodes is effective. This approach may be more appropriate than a suppressive regimen in patients with infrequent recurrences.

Immunocompromised patients with recurrent herpes infections can be treated with either intermittent or chronic suppressive therapy. Clinically significant resistance, although rare, is more likely to be seen with prolonged or repeated therapy in severely immunocompromised patients with active lesions.

CONTRAINDICATIONS: Zovirax Capsules are contraindicated for patients who develop hypersensitivity or intolerance to the components of the formulation.

WARNINGS: Zovirax Capsules are intended for oral ingestion only.

PRECAUTIONS: General: Zovirax has caused decreased spermatogenesis at high doses in some animals and mutagenesis in some acute studies at high concentrations of drug (see PRECAUTIONS — Carcinogenesis, Mutagenesis, Impairment of Fertility). The recommended dosage and length of treatment should not be exceeded (see DOSAGE AND ADMINISTRATION).

Exposure of Herpes simplex isolates to acyclovir *in vitro* can lead to the emergence of less sensitive viruses. The possibility of the appearance of less sensitive viruses in man must be borne in mind when treating patients. The relationship between the *in vitro* sensitivity of Herpes simplex virus to acyclovir and clinical response to therapy has yet to be established.

Because of the possibility that less sensitive virus may be selected in patients who are receiving acyclovir, all patients should be advised to take particular care to avoid potential transmission of virus if active lesions are present while they are on therapy. In severely immunocompromised patients, the physician should be aware that prolonged or repeated courses of acyclovir may result in selection of resistant viruses which may not fully respond to continued acyclovir therapy.

Drug Interactions: Co-administration of probenecid with intravenous acyclovir has been shown to increase the mean half-life and the area under the concentration-time curve. Urinary excretion and renal clearance were correspondingly reduced.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Acyclovir was tested in lifetime bioassays in rats and mice at single daily doses of 50, 150 and 450 mg/kg given by gavage. There was no statistically significant difference in the incidence of tumors between treated and control animals, nor did acyclovir shorten the latency of tumors. In 2 *in vitro* cell transformation assays, used to provide preliminary assessment of potential oncogenicity in advance of these more definitive life-time bioassays in rodents, conflicting results were obtained. Acyclovir was positive at the highest dose used in one system and the resulting morphologically transformed cells formed tumors when inoculated into immunosuppressed, syngeneic, weanling mice. Acyclovir was negative in another transformation system considered less sensitive.

In acute studies, there was an increase, not statistically significant, in the incidence of chromosomal damage at maximum tolerated parenteral doses of 100 mg/kg acyclovir in rats but not Chinese hamsters; higher doses of 500 and 1000 mg/kg were clastogenic in Chinese hamsters. In addition, no activity was found after 5 days dosing in a dominant lethal study in mice. In 6 of 11 microbial and mammalian cell assays, no evidence of mutagenicity was observed. At 3 loci in a Chinese hamster ovary cell line, the results were inconclusive. In 2 mammalian cell assays (human lymphocytes and L5178Y mouse lymphoma cells *in vitro*), positive responses for mutagenicity and chromosomal damage occurred, but only at concentrations at least 400 times the acyclovir plasma levels achieved in man.

Acyclovir has not been shown to impair fertility or reproduction in mice (450 mg/kg/day, p.o.) or in rats (25 mg/kg/day, s.c.). At 50 mg/kg/day s.c. in the rat, there was a statistically significant increase in post-implantation loss, but no concomitant decrease in litter size. In female rabbits treated subcutaneously with acyclovir subsequent to mating, there was a statistically significant decrease in implantation efficiency but no concomitant decrease in litter size at a dose of 50 mg/kg/day. No effect upon implantation efficiency was observed when the same dose was administered intravenously. In a rat peri- and postnatal study at 50 mg/kg/day s.c., there was a statistically significant decrease in the group mean numbers of corpora lutea, total implantation sites and live fetuses in the F_1 generation. Although not statistically significant, there was also a dose related decrease in group mean numbers of live fetuses and implantation sites at 12.5 mg/kg/day and 25 mg/kg/day, s.c. The intravenous administration of 100 mg/kg/day, a dose known to cause obstructive nephropathy in rabbits, caused a significant increase in fetal resorptions and a corresponding decrease in litter size. However, at a maximum tolerated intravenous dose of 50 mg/kg/day in rabbits, there were no drug-related reproductive effects.

Intraperitoneal doses of 320 or 80 mg/kg/day acyclovir given to rats for 1 and 6 months, respectively, caused testicular atrophy. Testicular atrophy was persistent through the 4-week postdose recovery phase after 320 mg/kg/day; some evidence of recovery of sperm production was evident 30 days postdose. Intravenous doses of 100 and 200 mg/kg/day acyclovir given to dogs for 31 days caused aspermatogenesis. Testicles were normal in dogs given 50 mg/kg/day, i.v. for one month.

Pregnancy: ***Teratogenic Effects:*** Pregnancy Category C. Acyclovir was not teratogenic in the mouse (450 mg/kg/day, p.o.), rat (50 mg/kg/day, s.c.) or rabbit (50 mg/kg/day, s.c. and i.v.). There are no adequate and well-controlled studies in pregnant women. Acyclovir should not be used during pregnancy unless the potential benefit justifies the potential risk to the fetus. Although acyclovir was not teratogenic in animal studies,. the drug's potential for causing chromosome breaks at high concentration should be taken into consideration in making this determination.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Zovirax is administered to a nursing woman. In nursing mothers, consideration should be given to not using acyclovir treatment or discontinuing breastfeeding.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS — Short-Term Administration: The most frequent adverse reactions reported during clinical trials were nausea and/or vomiting in 8 of 298 patient treatments (2.7%) and headache in 2 of 298 (0.6%). Less frequent adverse reactions, each of which occurred in 1 of 298 patient treatments (0.3%), included diarrhea, dizziness, anorexia, fatigue, edema, skin rash, leg pain, inguinal adenopathy, medication taste and sore throat.

Long-Term Administration: The most frequent adverse reactions reported in studies of daily therapy for 3 to 6 months were headache in 33 of 251 patients (13.1%), diarrhea in 22 of 251 (8.8%), nausea and/or vomiting in 20 of 251 (8.0%), vertigo in 9 of 251 (3.6%), and arthralgia in 9 of 251 (3.6%). Less frequent adverse reactions, each of which occurred in less than 3% of the 251 patients (see number of patients in parentheses), included skin rash (7), insomnia (4), fatigue (7), fever (4), palpitations (1), sore throat (2), superficial thrombophlebitis (1), muscle cramps (2), pars planitis (1), menstrual abnormality (4), acne (3), lymphadenopathy (2), irritability (1), accelerated hair loss (1), and depression (1).

DOSAGE AND ADMINISTRATION: Treatment of initial genital herpes: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 10 days (total 50 capsules).

Chronic suppressive therapy for recurrent disease: One 200 mg capsule 3 times daily for up to 6 months. Some patients may require more drug, up to one 200 mg capsule 5 times daily for up to 6 months.

Intermittent Therapy: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 5 days (total 25 capsules). Therapy should be initiated at the earliest sign or symptom (prodrome) of recurrence.

Patients With Acute or Chronic Renal Impairment: One 200 mg capsule every 12 hours is recommended for patients with creatinine clearance $\leq$10 ml/min/1.73/m^2.

HOW SUPPLIED: Zovirax Capsules (blue, opaque) containing 200 mg acyclovir and printed with "Wellcome ZOVIRAX 200"- Bottles of 100 (NDC-0081-0991-55) and unit dose pack of 100 (NDC-0081-0991-56).

Store at 15°-30°C (59°-86°F) and protect from light.

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*In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.

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...we had
to find
just the
right room.

60,073 patients (90%) who started on INDERAL® LA stayed on INDERAL LA.[1*]

Surprising? Not really.

Because most patients on INDERAL LA (propranolol HCl) don't even know it's working.
A recent double-blind, placebo-controlled, crossover study in 138 hypertensive patients[2] revealed that INDERAL LA has a side effects profile unsurpassed by atenolol or metoprolol—which shows how well-tolerated once-daily INDERAL LA can be.

Sole therapy or concomitant therapy? Fifty-nine percent of the time, INDERAL LA stood on its own.

The patients in the nationwide compliance trial were no different from yours. Generally when the antihypertensive regimen is complicated, compliance may become a problem. So, the effectiveness of INDERAL LA as once-daily monotherapy is a big plus. Of the remaining hypertensives in the program, 36% were controlled merely with the addition of a diuretic to INDERAL LA.

For the noncompliant patients in your practice, INDERAL LA may well be the answer.

Almost 20,000 of the patients in the nationwide compliance trial were identified as having been noncompliant with their previous antihypertensive therapy. Their physicians reported that 88% showed improved compliance when placed on once-daily INDERAL LA.

Control, comfort, and compliance

ONCE-DAILY
INDERAL® LA
(PROPRANOLOL HCl)
LONG ACTING CAPSULES

Like conventional INDERAL Tablets, INDERAL LA should not be used in the presence of congestive heart failure, sinus bradycardia, cardiogenic shock, heart block greater than first degree, and bronchial asthma.

*After a 30-day trial with INDERAL LA, physicians reported that 90% of the patients would remain on INDERAL LA.

The one you know best keeps looking better

Please see next page for brief summary of prescribing information.

The one you know best keeps looking better

BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR.)*

INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**

DESCRIPTION. Inderal LA is formulated to provide a sustained release of propranolol hydrochloride. Inderal LA is available as 80 mg, 120 mg, and 160 mg capsules.

CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

The mechanism of the antihypertensive effect of INDERAL has not been established. Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output, (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain. Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use. Effects on plasma volume appear to be minor and somewhat variable. INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients.

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction. Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period. The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity.

In dosages greater than required for beta blockade, INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential. The significance of the membrane action in the treatment of arrhythmias is uncertain.

The mechanism of the antimigraine effect of propranolol has not been established. Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain.

Beta receptor blockade can be useful in conditions in which, because of pathologic or functional changes, sympathetic activity is detrimental to the patient. But there are also situations in which sympathetic stimulation is vital. For example, in patients with severely damaged hearts, adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved. In the presence of AV block, greater than first degree, beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction. Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm.

Propranolol is not significantly dialyzable.



INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension, it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock; 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

WARNINGS. CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e.g., dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case, this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS. *General:* Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

Clinical Laboratory Tests: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

Pregnancy: Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers: INDERAL is excreted in human milk. Caution should be exercised when INDERAL is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: bradycardia, congestive heart failure, intensification of AV block, hypotension, paresthesia of hands, thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type.

Central Nervous System: lightheadedness, mental depression manifested by insomnia, lassitude, weakness, fatigue, reversible mental depression progressing to catatonia, visual disturbances, hallucinations; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics.

Gastrointestinal: nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: bronchospasm.

Hematologic: agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic ourpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: alopecia. LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL tablets to INDERAL LA capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg for mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood-pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three to seven day intervals until optimum response is obtained. Although individual patients may respond at any dosage level, the average optimum dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimum migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximum dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

*The appearance of these capsules is a registered trademark of Ayerst Laboratories.

REFERENCES:

1. INDERAL LA National Compliance Evaluation Program. Data on file, Ayerst Laboratories.
2. Ravid M, Lang R, Jutrin I. The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily. *Arch Intern Med* 1985;145:1321-1323.

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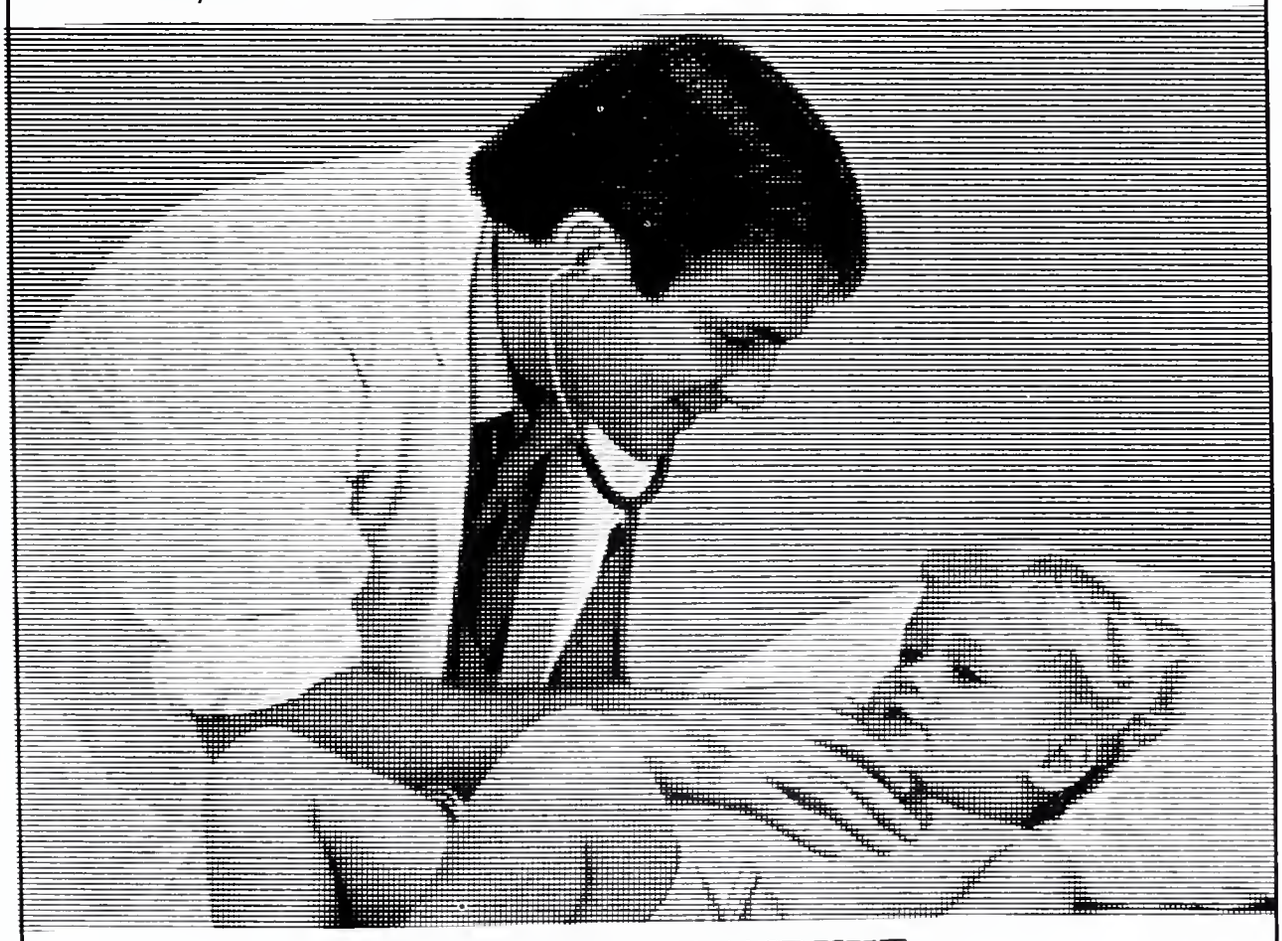
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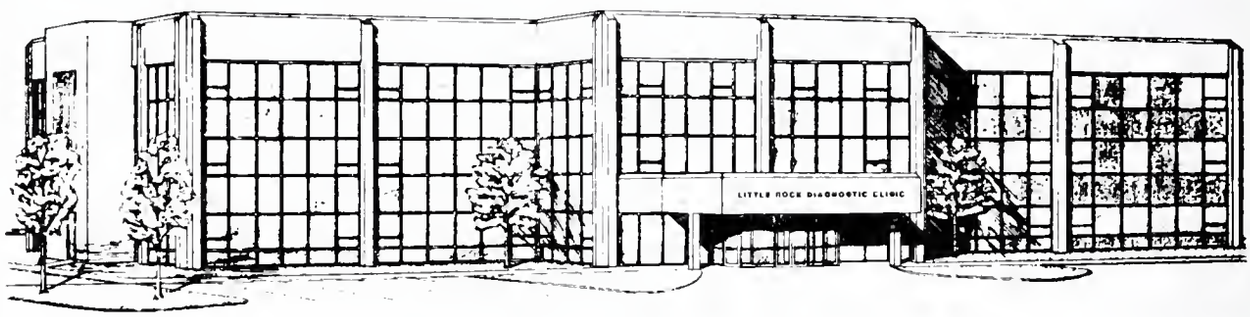
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The Role of Thoracic CT in the Staging of Lung Carcinoma

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INTRODUCTION

Carcinoma of the lung has reached epidemic proportions over the last several decades. It is by far the most common cause of cancer death in males in the U. S. and is replacing breast cancer as the most common cause of cancer death in females.[1]

Surgery remains the only established hope for cure of the disease. Unfortunately, only a minority of individuals are candidates for attempted surgical cure at the time of diagnosis. It is most important to appropriately select this minority of patients to avoid the morbidity, mortality, and expense of needless thoracotomy. Computed tomography (CT) of the chest and upper abdomen has emerged as a valuable adjunct to aid in this selection process. This review will examine the role of CT and critically assess its merits and pitfalls in the evaluation of patients with lung cancer.

OVERVIEW OF THORACIC CT

The evolution of CT technology over the past decade has resulted in scanners with sufficiently short scan times to permit anatomic display of intrathoracic structures far superior to more traditional techniques. This improvement is due to much greater contrast resolution of CT compared to plain film radiography and to the ability of CT to display anatomy in a cross-sectional format.

It is now possible to image the mediastinum using CT and depict structures less than 5 mm in diameter. Similarly, structures in the lung parenchyma such as small nodules that cannot be visualized with plain film tomography can frequently be seen with CT.

Likewise, CT scans have permitted much improved discrimination of densities of intrathoracic soft tissues sufficient to occasionally permit histologic diagnosis previously impossible with plain film radiology, e.g. lipomas of the pleura and mediastinum.

With regards to the staging of lung cancer, the principal role of CT has been to assess the mediastinum for enlarged lymph nodes, to define the anatomic extent of the tumor more precisely, and to image the adrenal glands in the upper abdomen, a not infrequent site for extrathoracic spread of lung cancer.

MEDIASTINAL NODES

In general, the presence of metastasis to the mediastinal nodes from lung carcinoma makes the patient unresectable for cure. Thus, it would be most valuable if CT could differentiate between patients with and without mediastinal nodal metastasis. The ability of CT to accomplish this is contigent on whether metastatic disease to mediastinal nodes causes their enlargement to a significant degree to segregate them from benign medastinal nodes.

Several investigations over the past several years have assessed the correlation between nodal size as measured by CT and the presence or absence of metastases.[2-10] Also, several studies have been done to assess the number and size of mediastinal nodes depicted by CT in healthy individuals.[11-13]

It has become increasingly apparent that there is a significant overlap in size between benign and tumor involved mediastinal nodes. Although differing size criteria have been proposed in an attempt to define statistically useful guidelines between benign and malignant nodes, most studies conclude that nodes < 1 cm in diameter are usually free of metastases and nodes > 2 cm are usually involved with tumor. Sensitivities as

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high as 95% have been reported for the CT detection of metastatic nodes using 1 cm as the upper limit of normal.[4] Conversely, in most studies nodes > 2 cm are only very rarely free of tumor (Figure 1).[2,6]

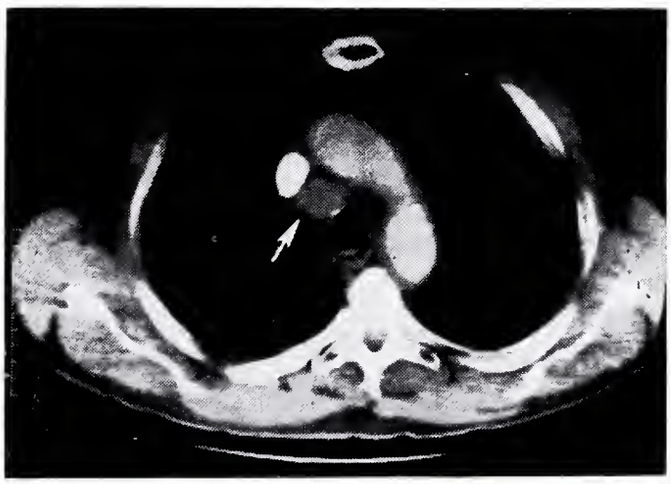


Figure 1.
Enlarged (>2cm) metastatic pretracheal lymph node (arrow) posterior to contrast opacified superior vena cava.

However, recent data from M. D. Anderson suggests that tumor involvement of nodes < 1 cm may not be as uncommon as previously thought.[5,10] McKenna et al.[5] report that in a series of 102 patients with bronchogenic carcinoma who underwent thoracotomy with radical mediastinal node dissection, 10 of 25 malignant nodes resected were < 1 cm in diameter. They suggest that the reported high sensitivities of other studies were in large part due to incomplete surgical-pathologic correlation. In the same series it was also found that two of eight resected mediastinal nodes > 2 cm in diameter were free of tumor.

The value of CT assessment of mediastinal nodes for tumor involvement remains controversial. It is now generally agreed that histologic proof of metastasis should be obtained before attempt at surgical cure is denied. CT provides a useful road-map to guide assessment of suspicious nodes. In general, right paratracheal nodes can be sampled by transcervical mediastinoscopy and nodes in the aorto-pulmonary window by parasternal mediastinotomy. Subcarinal nodes pose more difficulty for histologic sampling short of thoracotomy but CT-guided needle aspiration biopsy or bronchoscopically guided transbronchial biopsy may be possible.[14] Although many investigators feel that a negative scan (no nodes > 1 cm) precludes the need for further invasive staging prior to thoracotomy, the recent data cited from M. D. Anderson does raise some doubt in this regard.

MEDIASTINAL INVASION

Computed tomography permits a much more detailed evaluation of the relation of central bronchogenic carcinomas to the mediastinum than does plain film radiography or tomography. Particularly, with use of dynamic contrast enhanced scans the relation of the tumor to the heart, great vessels, and central tracheobronchial tree can be defined.

Baron et al. evaluated the ability of CT to correctly predict the invasion of vital mediastinal structures that might preclude surgical resection.[2] They concluded that mere contiguity of the tumor with the mediastinum did not necessarily indicate invasion. In order to call actual invasion, it was necessary to demonstrate encasement of vital mediastinal structures by tumor or to demonstrate unequivocal extension of tumor into the mediastinal fat (Figure 2).

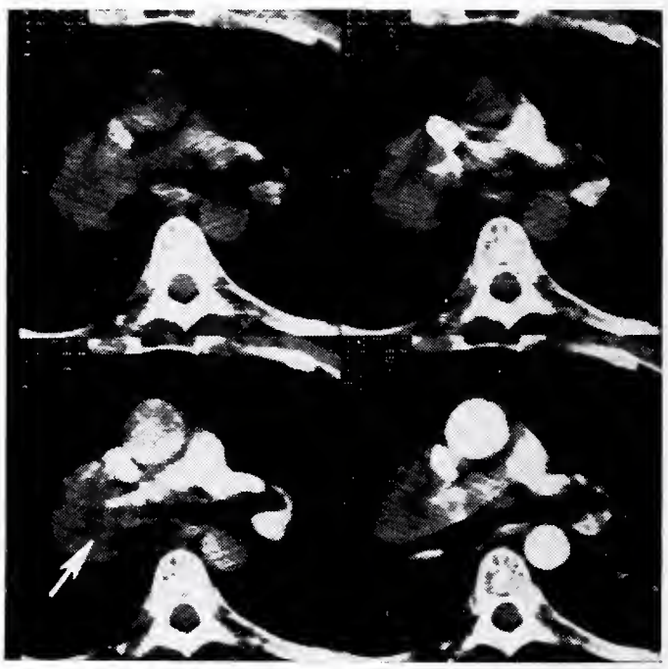


Figure 2.
Large right hilar carcinoma with invasion of mediastinum. Arrow points to contrast opacified right pulmonary artery encased by tumor.

Another factor that may compromise the ability of CT to precisely define the relation of the tumor to vital mediastinal structures results from the frequent existence of associated obstructive pneumonia or atelectasis with central tumors. With CT it is sometimes impossible to discriminate between actual tumor mass and lung opacified due to collapse or pneumonia.

CHEST WALL INVASION

Although chest wall invasion is not necessarily a contraindication to attempted surgical resection of lung carcinoma, it does entail more radical

surgery with higher morbidity and mortality. It would be helpful in planning patient management if CT could accurately assess for presence of pleural and chest wall invasion.

Several studies, including a recent study by Pennes et al., conclude that contiguity of the tumor with the chest wall, even when associated with pleural thickening, does not always indicate pleural invasion. In their series, pleural thickening was present in all cases with pleural or chest wall invasion, but only about one-third of the patients had tumor invasion.[15] Only when there is frank rib destruction or extension of tumor into muscles of the chest wall can chest wall invasion be accurately predicted.

ADRENAL METASTASES

At autopsy there is a high incidence of adrenal metastasis in patients dying of bronchogenic carcinoma. Over the past several years it has become apparent that CT can detect adrenal metastases, occasionally this representing the only site of tumor spread (Figure 3).[17,18] The demonstration

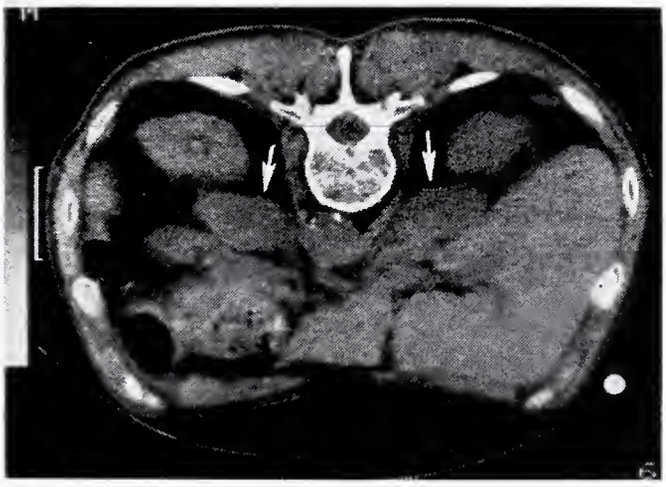


Figure 3.
Bilateral adrenal masses secondary to metastasis from known lung carcinoma (arrows).

of adrenal metastases would, in general, preclude curative thoractomy.

Most adrenal metastases detected by CT are masses > 3 cm in diameter and are occasionally bilateral.[16] However, the mere demonstration of an adrenal mass does not document metastasis; in fact Oliver et al. found that only eight of 25 patients with lung cancer and isolated adrenal masses had metastatic adrenal disease, the other 17 being benign adenomas.[16] Thus, biopsy of adrenal masses is indicated to assess their histology. This can usually be accomplished by CT-directed needle biopsy.

PATIENT SELECTION

Some patients who present with bronchogenic carcinoma are not candidates for thoracotomy irrespective of the status of the mediastinal nodes. In general, staging thoracic CT is not indicated in these patients. Patients in this category include those who have documented small cell carcinoma, those with such limited pulmonary reserve that they cannot tolerate pulmonary resection, and those with extrathoracic metastases. Also, some patients will have obvious mediastinal nodal enlargement on their presenting chest radiograph making mediastinal staging with thoracic CT unnecessary.

A group of patients in whom the role of staging thoracic CT is controversial are those with small peripheral carcinomas (TI lesions < 3 cm). Different studies report conflicting data regarding the prevalence of metastasis in this group raising the issue of cost-effective patient evaluation.[19,20] It may be found that the cell type of the peripheral lesion influences the likelihood of finding metastatic mediastinal nodes in such patients.

SUMMARY

It is apparent from the preceding review that CT of the thorax does have significant limitations in its ability to accurately assess the extent of intrathoracic disease. It is important for both the radiologist and clinician to realize these limitations in order to optimize the value of staging CT and to avoid potentially improper patient management. Over the past several years we have utilized staging CT extensively at our institutions, particularly the VA Hospital. We have found the CT scan to be of value in patient management provided the limitations are understood and provided that there is ongoing dialogue between the radiologist and thoracic surgeon.

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Orthopedic Trends

Impingement Syndrome of the Shoulder

Philip H. Johnson, M.D.*

This syndrome, with all of its manifestations, is the most common shoulder condition seen by the practicing orthopedist. In a classic paper in 1972, Charles Neer described compression of the rotator cuff between the anterior lip of the acromion and coracoacromial ligament above and the greater tuberosity of the humerus below.[7] The tendon of the supraspinatus is most frequently involved. The long head of the biceps and infraspinatus tendons are less commonly injured (Figure 1).

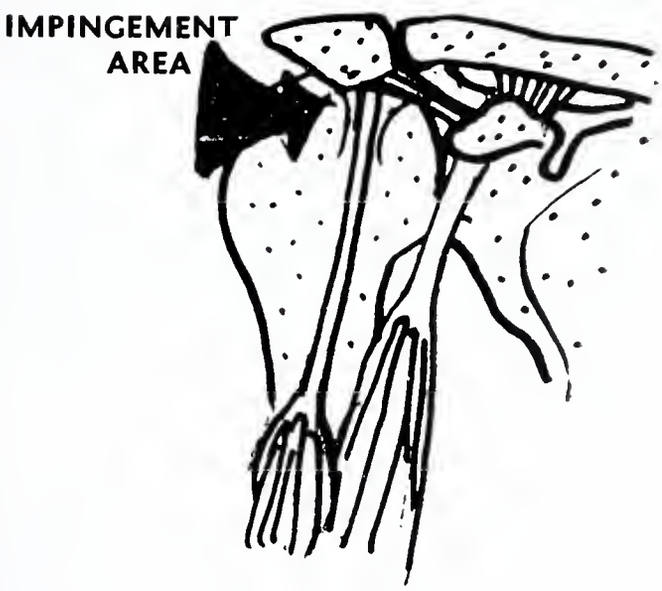


Figure 1.

The deltoid is the most important muscle of the shoulder. It encompasses the shoulder on three sides and produces flexion, abduction and extension. The supraspinatus tendon aids the deltoid in abduction of the shoulder, however it also has a very important "head depressor" function, increasing clearance under the acromion, and coracoacromial ligament. The long head of the biceps also serves the same purpose. As the biceps contracts the humeral head is forced downward. When clearance between the acromion and humerus is inadequate, impingement occurs. Neer points out that this compression of the rotator cuff occurs anteriorly, and not laterally, as previously assumed.[7]

Any activity which involves motion of the shoulder above 70 degrees of abduction or flexion may produce impingement. Young swimmers, baseball pitchers and tennis players frequently manifest this syndrome. Later in life, occupations which require the arm to be used overhead, as carpenters, bricklayers, etc., may produce shoulder problems. A "painful arc of motion" between 70 and 120 degrees is typical. Impingement has also been called "the painful arc syndrome".[5] Grating, crepitus, and popping of inflamed soft tissues occur, in the painful arc, as they are compressed between the acromion and the greater tuberosity. Attritional tears of the supraspinatus and biceps tendon may occur as compression continues. Impingement between the coracoid process and greater tuberosity has also been described.[2]

MANIFESTATIONS

Several painful shoulder conditions are now considered to be varying stages of the impingement syndrome.

Bursitis: Initially, edema and inflammation of

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the subacromial bursa overlying the superspinatus tendon produce acute or subacute anterior shoulder pain. Characteristically, it radiates down to the insertion of the deltoid, medially to the coracoid process and to a lesser extent into the neck. Thickening of the inflamed bursa may produce a sensation of popping in the painful arc between 70 and 120 degrees.

Supraspinatus Tendinitis: Repeated impingement trauma to the tendon at the insertion of the supraspinatus produces inflammation, hemorrhage and fibrosis. In the older patient where degeneration is occurring, calcification in the tendon produces "calcific tendinitis".

The tendinous insertion of the supraspinatus has been recognized as a vulnerable area for avascular necrosis.[10] As the arm hangs down in full adduction, arterial flow is "wrung out" over the distal centimeter of the tendon. This contributes to the degeneration which occurs with advancing age. Similarly, the biceps tendon has decreased blood supply flow in its intraarticular portion. Impingement, therefore, may be superimposed on vulnerable, relatively avascular, tendons.

Biceps Tendinitis: Impingement of the long head of the biceps in its sheath produces acute tenosynovitis and exquisite tenderness. The "biceps resistance test" is usually positive.[4] The patient is asked to forward flex the shoulder at 90 degrees against resistance, with the elbow extended and the forearm supinated. Anterior shoulder pain is reproduced in the involved tendon.

Rotator Cuff Rupture: The end stage of chronic impingement trauma is rupture of the supraspinatus at its insertion on the greater tuberosity. It may occur as a small incomplete tear initially and later proceed to a large complete rupture. Frequently some strenuous lifting incident precipitates a large acute tear. A history of chronic shoulder pain is frequently obtained. Night pain is typical. Very rarely trauma produces a large avulsion in the rotator cuff of the young athlete with no preceding impingement. The diagnostic physical finding is weakness to further abduction with the arm in 90 degrees abduction, 30 degrees flexion and full internal rotation.

CLINICAL STAGES

Neer has described three stages which seem to fit nicely the clinical patterns of impingement seen.[8,9]

Stage I: Edema and Hemorrhage.

The patient is usually an athlete less than 25 years of age, participating in a sport requiring strenuous exertion of the arm in the full overhead position, ie. pitching, tennis serving or swimming. Pain is present in the anterior shoulder over the typical arc. Rest and conservative measures usually bring about complete reversal of the pathologic changes. Resection of the coraco-acromial ligament is considered in an athlete who has persistent symptoms after one year of conservative management.[3]

Stage II: Fibrosis and Tendinitis.

The age group is usually 25 to 40 years. Repeated trauma to the rotator cuff and biceps tendon produce fibrosis and thickening. A toothache-like pain is now continuous and made worse with activity or lying on the affected side. Catching, popping and grinding is common. Conservative measures are always instituted; however, surgical decompression is commonly required. Simple resection of the coracoacromial ligament is considered inadequate and Neer acromioplasty is also indicated.

Stage III: Bone Spurs and Tendon Rupture.

The patient is now over forty years of age, having developed over many years complete or incomplete ruptures of the rotator cuff or biceps tendon. Severe pain which awakens the patient at night is characteristic. Atrophy of the supraspinatus muscle in the supraspinus fossa may be noted. X-ray changes in the anterior acromion and greater tuberosity are frequent. Changes in this stage are irreversible and surgery is usually indicated. Anterior acromioplasty and rotator cuff repair helps in relieving pain and improving function.

DIAGNOSIS

On physical examination a positive "impingement sign" is demonstrated by the following maneuver.[3,4] The examiner stands to the side or behind the patient with one hand over the top of the shoulder and the other hand passively flexes the painful shoulder to the full overhead position. The patient will experience pain as the humeral head passes through the arc of pain and is forced against the acromion. A "confirmatory impingement sign" is illicited as the patient's

shoulder, in 90 degrees of forward flexion, is passively internally rotated.[3,4] This motion rolls the greater tuberosity into the bony ledge of the anterior acromion producing pain.

The "impingement test" is carried out by injecting ten ccs of 1% Xylocaine under the anterior lip of the acromion into the subacromion bursa.[9] A positive test is represented by obliteration of pain, including the impingement sign, because the subacromial bursa is anesthetized.

X-rays in Stage I are negative. Later, plain x-rays may show spurs on the undersurface of the acromion.[7] Cysts, sclerosis and erosion of the greater tuberosity may also be seen.[6] Shoulder arthrograms are utilized to diagnose full thickness rotator cuff tears when suspected. When the radiopaque and air are injected anteriorly into the shoulder joint the torn cuff allows leakage into the subacromial bursa. A false negative arthrogram may occur when the bursa seals off the defect in the tendon.

Ultrasonagraphy has been used in some locations with great success in mapping out rotator cuff tears.

DIFFERENTIAL DIAGNOSIS

Tears of the Glenoid Labrum. Arthroscopy of the shoulder has made us increasingly aware of this diagnostic possibility. Symptoms are those of popping and locking within the shoulder joint similar to torn meniscus in the knee. The Andrews "Clunk Test" is helpful in clinical diagnosis.[1] The patient is supine and his arm is in the full overhead position. One of the examiner's hands is behind the shoulder lifting up while the other rotates the humerus. A "clunk" is felt as the labral fragment pops against the rotating head. Final diagnosis can be made on CT arthrography or arthroscopy.

Instability Syndromes. Recurrent subluxation of the shoulder is recognized as a cause for pain and instability particularly in the athlete. When this occurs after a frank dislocation, the diagnosis is clear. However, recurrent subluxation may occur without antecedent dislocation. A sensation of the shoulder slipping or "going out of joint" is experienced. Weakness and pain from reflex muscle spasm is produced. Diagnosis is suspected by a positive "apprehension test".[1,3] With the patient in the sitting position, the examiner is seated beside the patient's shoulder. The arm is placed in 90 degrees abduction and the humerus is externally rotated as an anterior and inferior force is applied to the proximal humerus. The patient experiences extreme anxiety from fear of dislocation. This test may also be performed with the patient supine and the examiner seated beside the shoulder. The arm is placed in 90 to 120 degrees of abduction and with external rotation "apprehension" is experienced.

Acromioclavicular Joint Disease. A history of shoulder separation complete or incomplete, followed by prolonged tenderness over the acromioclavicular joint should be diagnostic. More subtle injury or degeneration to the AC joint, however, is common. The most painful arc of motion here is from 120 degrees abduction to the full overhead position. X-rays early may show AC subluxation. Later x-rays reveal joint narrowing and spur formation. Three to five ccs of Xylocaine into the acromioclavicular joint should relieve the pain and be diagnostic of primary AC joint pathology. Occasionally osteophytes extending from the inferior surface of the acromioclavicular joint may produce impingement of the cuff. At surgery, these spurs should be recognized and resected. Resection of the distal clavicle is occasionally indicated

Cervical Disc Syndrome. Pain referred from the cervical spine secondary to a bulging cervical disc produces radiculopathy throughout the entire arm. Nerve root signs and symptoms are usually present. The following clinical test must be carried out gently. Lateral bending of the cervical spine to the involved side with neck extension and head compression increases the root pressure and aggravates the patient's symptoms. Placing the shoulder in the abducted position with the hand on the head relieves the pain.

Thoracic Outlet Syndrome. Shoulder pain from compression of the brachial plexus, axillary artery and vein usually radiates down the medial aspect of the arm. Paresthesias and numbness in the ulnar aspect of the forearm extend into the ring and little fingers. Compression of these neurovascular structures can occur anywhere between the scalene muscles and the outlet under the pectoralis minor muscle. Clinical tests include the Adson Test, the costoclavicular maneuver and Wright's hyperabduction maneuver.

Suprascapular Nerve Syndrome. Entrapment of the suprascapular nerve at the scapular notch produces vague shoulder pain and atrophy of the

supraspinatus and infraspinatus muscles. Any condition which restricts glenohumeral motion produces an increase in the excursion of the scapula placing traction on the suprascapular nerve. Maintain a high index of suspicion for this unusual condition.

Pancoast's Tumor. Carcinoma of the lung occupying its apex may involve the lower cervical nerve roots and produce Horner's Syndrome (ptosis, miosis, fascial anhidrous and enophthalmus). This must be the main differential diagnosis in an elderly smoker with shoulder pain.

TREATMENT

Most of the patients being treated with this disease complex will respond to conservative management. Frequently, only rest is necessary for the young athlete. Overuse in this age group is the most common cause for pain. Avoidance of overhead activities will usually bring about complete subsidence of symptoms and reversal of the changes in the rotator cuff. Nonsteroidal anti-inflammatory drugs seem to be effective. Codman pendulum exercises help maintain motion. Strengthening exercises with rubber tubing or light dumbells should be instituted below the arc of pain.

The injection of steroids with Xylocaine into the subacromial bursa is helpful. This should not, however, be done repeatedly. The injection of steroids into the tendon should be avoided as it produces tendon degeneration and predisposes to rupture. Cortisone is effective when injected into the bursa alone.

For the young athlete, training and prevention is the best treatment. Throwing athletes benefit from isokinetic exercises, developing strength and endurance in the muscles about the shoulder. Proper warm up and stretching is always recommended.

Surgery may be indicated in the chronic patient who fails to respond to six months of conservative treatment or when an acute rotator cuff tear is diagnosed. Since Neers' article in 1972, complete acromionectomy or lateral acromionectomy are considered contraindicated.[7] His technique for anterior acromioplasty has been proven effective (Figure 2). The anterior lip of the acromion process that extends beyond the clavicle is removed in a guillotine fashion and then the undersurface of the remaining process is removed in an oblique fashion to open the space between

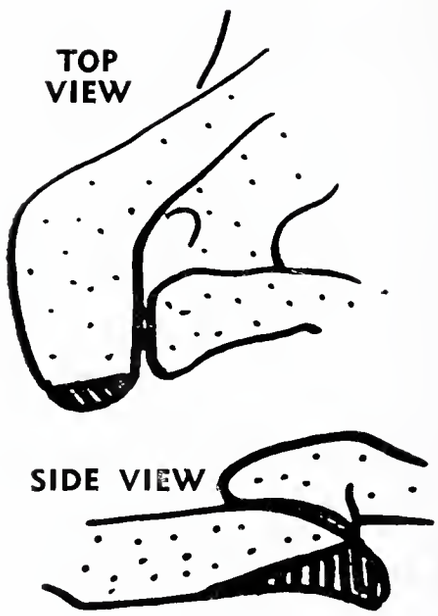


Figure 2.

the humeral head and the undersurface of the acromion. The coraco-acromial ligament is removed and a subacromial bursectomy is done to remove redundant inflammatory tissue. Careful reattachment of the deltoid muscle to the acromion with sutures into bone permits early motion. Only rarely is resection of the distal clavicle necessary. Repair of the acutely torn rotator cuff is indicated particularly in a younger patient. Rockwood has recently shown that in elderly patients acromioplasty and shoulder debridement is as important as rotator cuff repair in relieving pain.[11]

CONCLUSION

Impingement of the tendonius insertion of the supraspinatus and the long head of the biceps occur between the anterior acromion and the humeral head. Several shoulder maladies previously considered isolated problems are now recognized as having this common etiology. A better understanding of the disease mechanism will permit more effective early and long term management of these problems.

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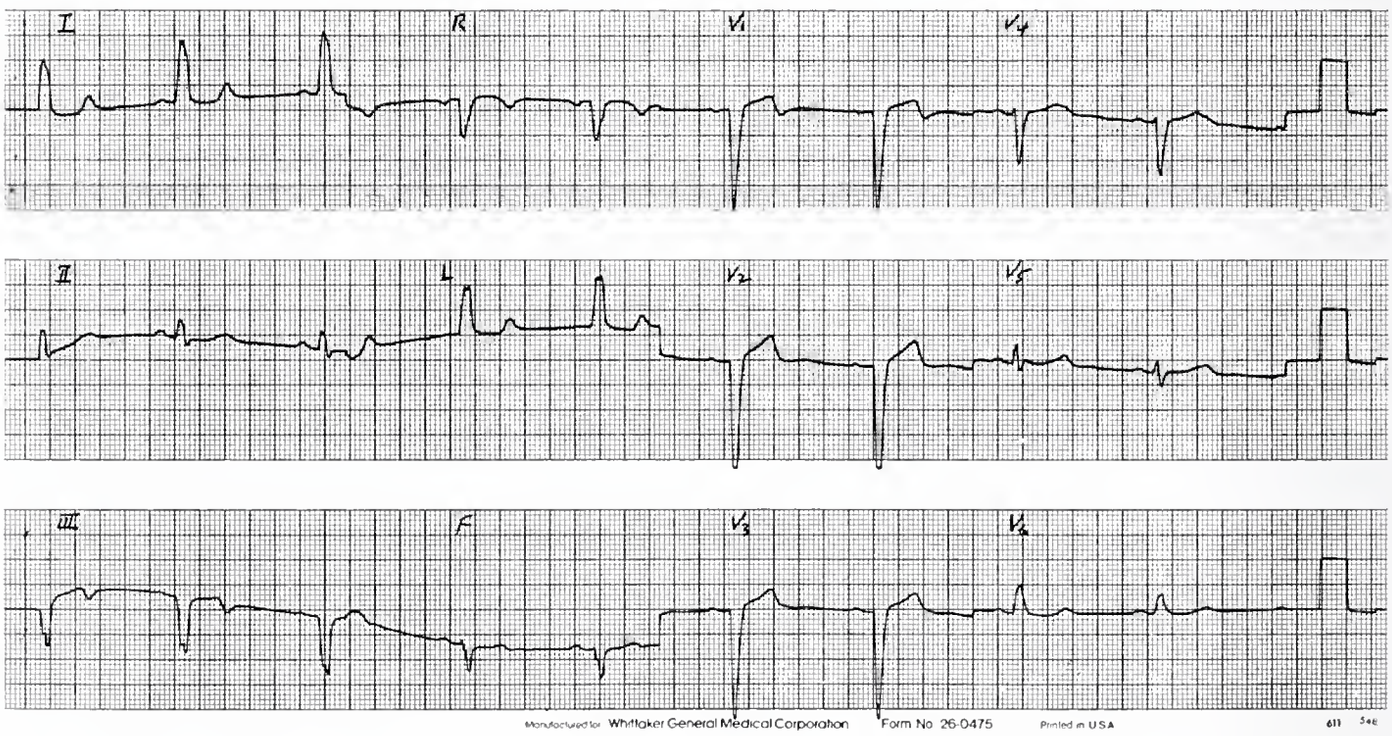
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ELECTROCARDIOGRAM OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on page 354)

HISTORY: J. D. is a sixty-year-old man who has presented for a routine general examination. His examination was normal except for bradycardia, mild systolic hypertension, and paradoxic splitting of his second heart sound. His ECG is shown. What do you think?



Rex Ross, M.D., and John W. Watson, M.D.
UAMS Division of Cardiology
Little Rock, Arkansas

Early Breast Cancer

W. Ducote Haynes, M.D., W. E. Atkinson, M.D., W. Dale Morris, M.D., and Jack J. Sternberg, M.D.*

PROBLEM

A 32-year-old female with a 1.5 cm palpable nodule in the upper outer aspect of the right breast presented for discussion of her treatment options. Mammogram revealed a 1 cm irregular density containing small calcifications suggesting a primary breast neoplasm.

PATHOLOGY REVIEW

Dr. Atkinson: This lesion will require a biopsy prior to definitive treatment. If the lesion is found to be primary malignancy, a portion of the tumor will be submitted to a reference laboratory for performance of estradiol and progesterone receptor assays. If a modified radical mastectomy is performed, the gross description will include the size of the primary tumor as well as the location and possible extension to adjacent tissues such as fascia, skin or pectoral muscle. The entire breast specimen is carefully evaluated for multifocal breast disease and involvement of lymph vessels by tumor. The axillary lymph nodes are sectioned, and the gross and microscopic findings should include the total number of lymph nodes examined, the number of nodes which contain metastatic tumor and the size of the largest node involved with tumor. Extension of tumor outside the node capsule and into the paranodal fat should also be described even if only microscopic. If a lumpectomy is performed, the specimen must be carefully checked to be certain the margins are adequate and free of tumor.[1,2]

SURGICAL OPINION

Dr. Morris: The outlined problem could be managed with a clinically negative axilla by making a circumareolar incision, widely excising the mass, and having it frozen. If it was malignant, then of course, estrogen plus progesterone binding site determinations would be obtained at the same setting. A separate incision would be made across the lower portion of the axilla and the lower axillary nodes sampled for staging purposes. The options of management would then be discussed with the patient. For local control of this particular lesion, the patient could be given a choice of proceeding with a modified radical mastectomy or having the breast irradiated for primary control if the primary tumor is 2 cm or less in diameter. Decisions for appropriateness of chemotherapy would be based on whether the axillary nodes were positive or negative.[3-6]

RADIOTHERAPY OPINION

Dr. Haynes: If the lesion is a primary breast neoplasm, this young patient has the option of treatment by way of modified radical mastectomy or "lumpectomy" and staging axillary dissection followed by radiation.[7-10] If a modified radical mastectomy is performed, postoperative radiation therapy is not routinely given, but it is considered if the primary lesion extends to adjacent structures such as skin or underlying pectoral muscle. It is also considered if there is extensive axillary involvement particularly with extra-nodal disease. If a patient elects to be treated by lumpectomy and radiation, the primary lesion should be excised completely plus a zone of surrounding normal tissue. Staging axillary dissection should also be performed. The extent of axillary dissection is controversial, but the lower axillary nodes must be removed for evaluation.[11] Complete axillary dissection will increase the incidence of breast and arm edema and has not been proven to increase local control or survival. If the nodes are negative, 4600 to 5000 rads tumor does should be delivered to the entire breast plus additional radiation therapy to the biopsy site by a small electron beam field or an interstitial implant.[12] If the nodes are positive, the radiation will be delayed until several courses of chemotherapy have been delivered. Radiation will also be given to the internal mammary, supraclavicular and axillary nodes. With lumpectomy and radiation therapy, the local failure rate should be between 5 and 10% and survival should be equivalent to treatment by modified radical mastectomy.

*St. Vincent Infirmary Cancer Center, St. Vincent Infirmary, Two St. Vincent Circle, Little Rock, Arkansas.

MEDICAL ONCOLOGY OPINION

Dr. Sternberg: The medical treatment of an early small breast cancer in a young woman continues to be perplexing and frustrating. There is little doubt any longer that multi-drug adjuvant chemotherapy is a premenopausal patient with any number of positive axillary nodes does show improved, disease-free interval and probable cure rate following administration of preventive chemotherapy. If the axillary nodes are not involved by tumor, chemotherapy is not routinely recommended. There are presently studies underway to try to determine whether or not patients with negative estrogen receptors and negative lymph nodes should be given adjuvant chemotherapy. No conclusive information is available at this time, and it will probably be years before a definitive answer can be obtained.[13-14]

CONSENSUS

This young patient with early breast cancer should be treated aggressively for cure. She has the option of treatment by modified radical mastectomy or "lumpectomy" followed by radiation therapy.[7-9] Chemotherapy will be given if the nodes are histologically positive with either of the above treatments.

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ANSWER — Electrocardiogram of the Month

DISCUSSION: The trace shows sinus bradycardia ond left bundle branch block. Mony people with left bundle bronch block will later develop evidence of significant heart disease, including congestive failure, hypertensive heort disease, or ASHD. Population studies have suggested thot o ten year life expectancy exists for patients with "new" left bundle bronch block. Postmortem studies show a high positive relationship between anatomic evidence of left ventricular hypertrophy and the presence of LBBB. Thus, the presence of LBBB often stands os o marker of present or future heart disease. The editor wishes to thank Dr. Ross of Conway, Arkansos for his ossistance with this month's feature.

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

Thomas Edwin Rhine, M.D. 1876-1964

by

Pat Rhine Brown*

Dr. Thomas Edwin Rhine was a country doctor who practiced for sixty-six and a half years in Calhoun County, Arkansas. "He began his practice in the county at Locust Bayou with Dr. E. L. Beck. His credentials were filed September 9, 1898. He practiced there for six months and returned to school at Memphis Hospital Medical College, where he graduated in 1899. He located at Thornton where he spent the rest of his life."[1]

His financial assets at that time amounted to $40.00, which had been loaned to him by Mr. John Dedman of Fordyce. Throughout the rest of his life, he never charged any member of that family for his services. He also never charged teachers, preachers, widows or the families of service men. Furthermore, he never sent a bill to any patient, believing that they would pay him whenever they could. More often than not, he was paid in produce.

In 1900, he became the physician and surgeon for Pearson Lumber Company, which later became Stout Lumber Company. He remained in this position until 1927, when the mill closed.

During his medical career, he was guided by three cardinal principles: keep sober, reach the patient as quickly as possible without regard for his ability to pay, and do the best he knew under the circumstances.[2]

His modes of transportation included walking, horseback, buggy, bicycle, train, wagon, automobile and even the cow-catcher of a log train engine. He did not have office hours nor a receptionist or nurse. His wife, Nanita, filled these jobs effectively at their home, keeping up with him and his calls, plus tending to emergency cases and consoling many uneasy patients. He dispensed his own medicines from gallon jugs, did simple laboratory tests, surgery, pulled teeth and doctored on dogs (no charge). He also fed, clothed, counseled and loaned money to his patients, who were also his friends, when it was needed.



In 1949, Dr. Rhine was named Arkansas Doctor of the Year and was first runner-up for the title of national Doctor of the Year. He held the unique honor of having a personal American Legion Post. Charter members were those who had been delivered by him.[3]

He estimated that he had delivered over 7,000 babies, most of them in the home. It was not until 1958 that the Dallas County Hospital was opened and he could deliver babies there. He delivered two sets of triplets (one set was breech). He delivered a twenty pound baby by normal delivery and an eighteen pound baby by podalic version. He had, in 1957, seventeen families in which he had delivered three generations and eighteen families in which he had delivered both parents and all of the children.[4] He gave up obstetrics and night calls in January of 1964.

His life was dedicated to the practice of medicine because he loved his fellow man, and they returned that love and trusted and relied upon him in many ways.

Pat Rhine is Dr. Rhine's daughter.

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4. Brown, Pat Rhine: *T. E. Rhine, M.D. Recollections of an Arkansas Country Doctor,* August House, 1985, pp. 363-364.

MEDICINE IN THE NEWS



UAMS STUDENT RESEARCH PAPERS PRESENTED

University of Arkansas for Medical Sciences graduate students, housestaff and medical students recently presented research papers to members of the College of Medicine and the Research Council of the College of Medicine. The papers were presented as part of the Student Research Day, an activity supported by the College of Medicine and the Council.

Three research papers were selected and will be entered in competition at a regional level. The winning papers were written by Brent D. Kerger, a graduate student; Thomas Roberts, M.D., a housestaff member; and Bill Wright, a medical student. Mr. Kerger's paper was entitled "Antagonism of Bromobenzene-Induced Hepatotoxicity by Phentolamine". The second paper, written by Thomas Roberts, M.D., was entitled "Thromboembolic Disease in Fractures about the Hip; Incidences and Prevention". "A Comparison of the Histological Events with the DNA Synthetic and Mitotic Activity of Non-regenerating Newt Limbs" was the topic of Bill Wright's research paper.

In a letter to the Arkansas Medical Society, Dr. Glen F. Baker, Interim Dean of the College of Medicine said, "We in the College of Medicine are very proud of the academic achievement of our graduates, their excellent performance is frequently noted in the local press. One of the activities that is rarely identified is the ongoing research activity of many of our graduate students, housestaff and medical students. This is also a critical part of the educational process and is an activity that I am personally very pleased to support."

EMERGENCY PHYSICIANS DISAPPOINTED BY CPSC RESPONSE TO DANGERS OF ATVs TO CHILDREN

The American College of Emergency Physicians recently expressed "disappointment" with the Consumer Protection Safety Commission for its weak response to the dangers of all-terrain recreation vehicles (ATVs) and said "many needless deaths and injuries could be avoided by a stronger action."

The CPSC rejected the recommendation of its own ATV Task Force and instead called only for "voluntary standards" for limiting the sale of ATVs intended for use by small children. The ATV Task Force report had recommended much stronger action, including removing from the marketplace all ATVs designed for children under the age of 12.

"We're disappointed that the commission chose to back as far away from the task force recommendations as it did. The commission had an opportunity to make a significant contribution in the area of child safety and didn't. We, quite frankly, have little hope that the call for voluntary action will accomplish anything positive and the result will be more needless deaths and injuries," said ACEP president Dr. Michael Ervin.

"We will continue our efforts to educate parents to the dangers of the three-wheeled ATVs, particularly to children under the age of 14."

In November, ACEP called for prohibiting children under the age of 14 from operating the ATVs unless supervised by adults, the mandatory use of helmets and other safety equipment and mandatory testing and licensing of all ATV operators as a way of curbing the "epidemic of injuries being sustained."

The emergency physicians organization also said it would begin efforts to inform parents to the dangers of ATVs when operated by small children, noting that, on the average, 20 deaths and 7,000 injuries were occurring each month in the United States by riders of ATVs.

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keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

22ND ANNUAL SURGICAL SYMPOSIUM

March 26-28, 1987. Presented by Robert W. Barnes, M.D. Sponsored by the UAMS Office of Continuing Education for Physicians. Arlington Hotel, Hot Springs, Arkansas. Fee: $75.00 non-ACS members; $25.00 members of Arkansas Chapter of the American College of Surgeons. 6.5 credit hours of Category I credit tentatively available.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one or two hours Category 1 credit.

EL DORADO — AHEC-SOUTH ARKANSAS

Behavioral Sciences Conference, first and fourth Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m. to 1:00 p.m., Warner Brown Hospital.
Gynecology-Pathology Conference, second Friday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Pathology Conference, second Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Obstetrics-Gynecology Conference, fourth Thursday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Surgical Conference, first, second, and third Monday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.
Tumor Clinic, fourth Tuesday, 12:15 p.m. to 1:00 p.m., AHEC-South Arkansas.

FAYETTEVILLE — AHEC-NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Medical Conference, fourth Wednesday, 12:00 noon, Conference Room, Building 1, VAMC.
Pathology/Mortality Conference, first Wednesday, 12:00 noon, Conference Room, Building 1, VAMC.
Radiology Conference, second Wednesday, 12:00 noon, Conference Room, Building 1, VAMC.
Surgical Pathology Conference, third Wednesday, 12:00 noon, Conference Room, Building 1, VAMC.

FORT SMITH — AHEC

Cardiology Conference, first Wednesday, 12:30 p.m., Sparks Regional Medical Center.
Dermatology Conference, first Thursday, 12:30 p.m., Sparks Regional Medical Center, Library.
Family Practice Conference, third Wednesday, 12:30 p.m., Sparks Regional Medical Center, Library.
Gastroenterology Conference, first Friday, 12:30 p.m., Sparks Regional Medical Center, Library.
Neurology Conference, second Thursday, 12:30 p.m., Sparks Regional Medical Center.
Obstetrical/Gynecology Conference, third Thursday, 12:30 p.m., Sparks Regional Medical Center, Library.
Thoracic/Cardiovascular Conference, third Thursday, 12:30 p.m., Sparks Regional Medical Center, Library.

HOT SPRINGS — AMI NATIONAL PARK MEDICAL CENTER

Continuing Medical Education Luncheon, varying topics, second and fourth Friday, 12:30 p.m., Classrooms, AMI National Park Medical Center.

JONESBORO — AHEC-NORTHEAST

AHEC Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., Arkansas Methodist Hospital, Paragould.
Chest Conference, second Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Independence County Medical Society Conference, second Tuesday, 7:30 p.m., White River Medical Center, Batesville.
Interesting Case Conference, second and fifth Tuesday, when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Kennett Tumor Conference, second Tuesday, alternating months beginning with December, 1986, Twin Rivers Regional Medical Center, Kennett, MO.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Cafeteria, Methodist Hospital of Jonesboro.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Neurological/Neurosurgical Lecture Series, every other Monday, 7:00 a.m., St. Bernard's Dietary Conference Room.
Newport Tumor Conference, second Wednesday, 12:00 noon, rotates each month between Harris Clinic and Newport Hospital.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Alternating Sub-Specialty Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
General Pediatrics Seminar, first and third Friday, 12:00 noon, Second Floor Classroom.
Genetics Conference, each Wednesday, 12:00 noon, ACH Clinic Conference Room.
Infectious Disease Conference, second Wednesday, 12:00 noon, Second Floor Classroom.
Oncology Conference, third Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Second Floor Classroom.
Pediatric Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pediatric Neuroscience Conference, first Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Pharmacology Conference, fifth Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Radiology Conference, first and third Thursday, 12:00 noon, Second Floor Classroom.
Pediatric Research Conference, third Monday, 12:00 noon, Second Floor Classroom.
Problem Case Conference, second and fourth Friday, 12:00 noon, Second Floor Classroom.
Respiratory Care Case Conference, each Monday, 3:00 p.m., Second Floor Classroom.

LITTLE ROCK — ST. VINCENT INFIRMARY

Cancer Conference, first Wednesday, 12:00 noon, CARTI Auditorium. A meal is provided.
Cancer Conference, third and fourth Thursday, 12:00 noon, Room S1174K, Laboratory. A meal is provided.
General Medicine Journal Club, each, 12:00 noon, Medical Affairs Conference Room. Bring your lunch.
Hematology-Oncology Conference, second Thursday, 12:00 noon, Laboratory Library. A meal is provided.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m., Classroom 1, Education Wing. Refreshments are provided.
Neuropathology Conference, third Tuesday, 5:00 p.m., Room S1174K, Laboratory. Refreshments are provided.
Pediatric Conference, first Tuesday, 12:30 p.m., Classroom 1, Education Wing. A meal is provided.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m., Classroom 1, Education Wing. A meal is provided.
Pulmonary Conference, second and fourth Wednesday, 12:00 noon, Classroom 1, Education Wing. A meal is provided.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Anesthesia Lecture Series, each Tuesday, 7:00 a.m.; each Wednesday, 4:00 p.m., UAMS Education Building, Room G/106.
Anesthesia Morbidity and Mortality Conference, each Thursday, 4:00 p.m., UAMS Education Building, Room G/106.
Arkansas State Hospital Psychiatric Service, each Tuesday, 12:00 noon, Arkansas State Hospital, Administration Wing, 3rd Floor Conference Room.
GI Basic Science Conference, each Thursday, 7:30 a.m., UAMS Education Building, Room G/108 A & B.
Interdisciplinary Gynecologic Cancer Conference, each Friday, 12:30 p.m. UAMS Education Building, Room G/106 A & B.
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.
Medicine Research Conference, each Tuesday, 8:00 a.m., UAMS Shorey Building, Room 8/105.
OB/Gyn Grand Rounds, each Wednesday, 7:30 a.m., UAMS Education Building, Room G/141B.
Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m., UAMS AAC Eye Clinic, Room 3/150. 2 hours credit.
Orthopaedic Fracture Conference, each Tuesday, 7:30 a.m., UAMS Education Building, Room B/135.
Orthopaedic Basic Science Conference, each Tuesday, 11:00 a.m., UAMS Education Building, Room B/135.
Orthopaedic Bibliography Conference, each Tuesday, 8:30 a.m., UAMS Education Building, Room B/135. 1½ hours credit.
Orthopaedic Grand Rounds, each Tuesday, 10:00 a.m., UAMS Education Building, Room B/135.

Psychiatry Grand Rounds, each Friday, 11:00 a.m., UAMS Shorey Auditorium.
St. Vincent Urology Grand Rounds, first Tuesday, 5:30 p.m., St. Vincent Infirmary, Education Building, Room 159.
Surgery Grand Rounds, each Saturday, 9:00 a.m., UAMS Education Building, Room G/131.
Surgical Science Conference, each Saturday, 8:00 a.m., UAMS Education Building, Room G/131.
Urology Grand Rounds/Urologic Topics, two to three times monthly (each), 5:00 p.m., UAMS or VAMC.
Urology Morbidity and Mortality Workshop/Uro-Radiology Workshop, once monthly, 5:00 p.m., UAMS (dates vary).
VA Medical Service Teaching Conference, each Thursday, 8:00 a.m., NLRVA, Building 66, Room 38.
VA Research Methods Conference, varying Wednesdays, 12:00 noon, LRVA, 1E122.
VA Surgery Grand Rounds, each Thursday, 12:45 p.m., LRVA, Room 2D109.
VA Topics in Rehabilitation Medicine, each Thursday, 7:45 a.m., NLRVA, Building 89L.
VA Weekly Cancer Conference, (Surgical Service), each Tuesday, 1:00 p.m., LRVA, Room 2D109.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Anesthesiology Conference, third Thursday, 7:00 a.m., Conference Room 1.
Grand Rounds Conference, each Wednesday, 12:00 noon, Conference Room 1. Lectures and Case Presentations. A light lunch will be served.
Pathology Conference, third Tuesday, 3:00 p.m., Pathology Library, Case Presentations.
Pulmonary Conference, each Tuesday, 12:00 noon, Shuffield Auditorium. Lunch served for $1.75.
Surgery Conference, each Thursday, 7:30 a.m., Conference Room 2. Lectures and Case Presentations.

PINE BLUFF — AHEC

Chest Conference, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Family Practice Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Sub-Specialty Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC

Chest Conference, third Wednesday, 12:30 p.m., St. Michael Hospital.
Neuro-Radiology Conference, second and fourth Wednesday, 7:00 a.m. breakfast, Wadley Regional Medical Center.
Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.

As organizations accredited for continuing medical education by the Accrediation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

THINGS TO COME



March 1-7

Internal Medicine Symposium. Sponsored by the University of Kansas Medical Center. Cancun, Mexico. 10 Category I credit hours. For further information contact: Eileen Buttron, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103; (913) 588-4494.

March 3-13

Hawaii 87: Critical Issues in Primary Care. Sponsored by the Pacific Institute of Continuing Medical Education and the Hawaii Medical Association. Waiohai Hotel, Poipu Beach, Hawaii. 20 Category I credit hours. For more information contact: Ms. Valerie Murray, The Pacific Institute of Continuing Medical Education, Post Office Box 1059, Koloa, Hawaii 96756; (808) 742-7471.

March 6-7

Cardiology Department Management Conference. Sponsored by the Institute for Medical Studies. New Orleans, Louisiana. 10 hours Category I Credit. Fee: $350.00. For more information contact: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215. Laguna Niguel, CA 92677; (714) 495-4499.

March 7-8

Breast Imaging Update. Sponsored by the University of California, San Francisco. Fairmont

Hotel, San Francisco. 13 hours Category I credit available. Fee: $295 for physicians. $195 for residents, fellows, technologists and nurses with letter of verification. For further information contact: Radiology Postgraduate Education, Room C324, University of California, Third and Parnassus, San Francisco, CA 94143; (415) 476-5731.

March 8-13

Annual Meeting of the United States-Canadian Division of the International Academy of Pathology. Palmer House, Chicago, Illinois. Scientific papers, poster sessions, specialty conferences, 11 short courses, 2 special courses and a long course will be presented. Three Category I credit hours for each course attended. For further information, contact: Dr. Nathan Kaufman, Secretary-Treasurer, United States-Canadian Division of the International Academy of Pathology, Building C, Suite B, 3515 Wheeler Road, Augusta, GA 30909; (404) 733-7550.

March 9-13

Thirtieth Annual Postgraduate Course in Diagnostic Radiology. Sponsored by the University of California, San Francisco. Fairmont Hotel, San Francisco. 34 hours Category I credit available. Fee: $495 for physicians, $395 for residents, fellows, nurses and technologists. For further information contact: Radiology Postgraduate Education, University of California, Third and Parnassus, Room C324, San Francisco, CA 94143; (415) 476-5731.

March 16-20

Multimodality Radiology Relevant to Clinical Practice. Sponsored by the University of California, San Francisco. Waiohai Hotel, Poipu Beach, Kauai, Hawaii. 24 Category I credit hours available for physicians; 24 contact hours for nurses if they attend the entire program; 24 ECE points for technologists. Fee: $495.00 for physicians; $395.00 for residents, fellows, technologists and nurses with letter of verification. For more information contact: Radiology Postgraduate Education, University of California, Third & Parnassus, Room C324, San Francisco, CA 94143; (415) 476-5731.

March 18-21

Third National Leukemia Society Medical Symposium. Sponsored by the Leukemia Society of America. Town and Country Hotel, San Diego, California. 17 Category I credit hours for physicians; 20.7 contact hours for nurses. For more information, contact: Leukemia Society of America, 733 Third Avenue, New York, New York 10017; (212) 573-8484.

March 22-27

Ninth Annual Winter Psychiatry Conference: "Times of Crisis: Adolescence and Aging". Sponsored by the Karl Menninger School of Psychiatry and Mental Health Sciences and the Division of Continuing Education. Yarrow Hotel and Conference Center, Park City, Utah. 26 hours Category I credit available. Fee: Physicians, $365. Psychiatry Residents (with letter of verification from supervisor): $240. Additional $15 per optional workshop selected. Registration deadline of February 19, 1987. Advance registration is required. For more information contact: Brenda Vink, Conference Coordinator, Division of Continuing Education, The Menninger Foundation, Box 829, Topeka, Kansas 66601; (913) 273-7500, ext. 5992.

March 29-April 1

Cardiology Update. Sponsored by the Institute of Medical Studies. Phoenix, Arizona. 26 hours Category I credit. Fee: $395. For more information contact: List Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Laguna Niguel, CA 92677; (714) 495-4499.

April 3-5

United States Section of the International College of Surgeons Annual Meeting and Surgical Forum. Sponsored by the U. S. Section of the International College of Surgeons. Washington Sheraton, Washington, D. C. Nine hours of Category I credit and one additional hour for each roundtable luncheon attended. Fees prior to March 1: $300 for ICS members, #375 for non-members, and $200 for nurses and residents. After March 1: $350 for ICS members and $425 for non-members. For further information contact: Administrative Office, U. S. Section, ICS, 1516 North Lake Shore Drive, Chicago, IL 60610.

April 10-11

Hypertension: New Directions. Sponsored by the University of Kentucky. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit available. For further information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, KY 50536; (606) 233-5161.

April 9-11

Thoracic Imaging Update. Sponsored by the University of California, San Francisco. Monterey, California. 13 hours Category 1 credit available. Fee: $295 for physicians, $195 for residents, fellows, technologists and nurses with letter of verification. For further information contact: Radiology Postgraduate Education, Room C324, University of California, Third and Parnassus, San Francisco, CA 94143; (415) 476-5731.

April 10-12

Contact Lens Workshop. Sponsored by the University of Kentucky. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit available. For further information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, KY 50536; (606) 233-5161.

April 11-12

Ob/Gyn and Abdominal Sonography: Update 1987. Sponsored by the University of California, San Francisco. Hyatt Union Square Hotel, San Francisco. 14½ hours Category I credit available. Fee: $325 for physicians, $225 for residents, fellows, technologists and nurses with letter of verification. For further information contact: Radiology Postgraduate Education, Room C324, University of California, Third and Parnassus, San Francisco, CA 94143; (415) 476-5731.

April 22-25

Symposium on Options in Managing Children with Infections and Sixth Annual Pediatric Infectious Disease Seminar. Sponsored by the University of Texas Health Science Center, Department of Pediatrics. Las Vegas Hilton Hotel, Las Vegas, Nevada. 22 Category I credit hours, 19 PREP credits and 18.75 prescribed hours AAFP. Fee: $300 physicians; $225 residents, fellows, PA's and PNP's. For more information contact: Marian Troup, Seminar Coordinator, University of Texas Health Science Center, 5323 Harry Hines Blvd., Dallas, TX 75235; (214) 688-3439.

April 22-26

Comprehensive Review Course in Critical Care Medicine. Sponsored by the Center for Bio-Medical Communication and the George Washington University School of Medicine. Bethesda, Maryland. 31 Category I credit hours. Fee: $550 includes tuition, course materials and bibliography. For further information contact: The Center for Bio-Medical Communication, 491 Grand Avenue, Englewood, NJ 07631; (201) 568-9381.

April 24-25

The Terminally Ill Patient: Psychological, Social, Legal, and Ethical Issues. Sponsored by the Harvard Medical School. Copley Plaza Hotel, Boston, MA. Twelve Category I credit hours available. For further information contact: Harvard Medical School, Department of Continuing Education, Boston, MA 02115; (617) 732-1525.

April 24-25

Contemporary Pediatrics for the Practicing Physician. Sponsored by the University of Kentucky. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit available. For further information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, KY 50536; (606) 233-5161.

April 25

Anticoagulant and Antithrombotic Therapy: State of the Art. Sponsored by the University of Kansas. Category I credit available. For further information contact: Eileen Buttron, University of Kansas Medical Center, Office of Continuing Education, 39th and Rainbow Blvd., Kansas City, KS 66103; (913) 588-4480.

April 25-26

Transurethral Ureteroscopy: A Seminar and Workshop. Sponsored by the University of California, San Diego. La Jolla Marriott, San Diego, California. 13 Category I credit hours. Fee: $375. For more information contact: Office of Continuing Medical Education, M-017 UC San Diego School of Medicine, La Jolla, CA 92093; (619) 534-3940 or (619) 452-3940.

May 2-9

Doppler and 2-D Echocardiography Symposium. Sponsored by the Institute for Medical Studies. Newport Beach, California. 40 hours Category I credit available. Fee: $895. For more information contact: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Lagnua Niguel, CA 92677; (714) 495-4499.

May 2-10

Fifth Annual London Spring Seminar in Medical Diagnostic Imaging. Sponsored by Medical Seminars International. London, England. 18 Category I hours available. Fee: $395 prior to

February 28 and $435 after March 1, 1987. For more information contact: Spring Seminar, 21915 Roscoe Boulevard, Suite 222, Canoga Park, CA 91304; (818) 340-0580, ext. 280.

May 28-30

Forty-Ninth Annual Meeting of the Louisiana-Mississippi Ophthalmological and Otolaryngological Society. Sponsored by the LA-MS O & O Society. Broadwater Beach Hotel, Biloxi, Mississippi. For more information contact: La.-Miss. O & O Society, Post Office Box 12314, Jackson, MS 39236; (601) 956-7787.



PERSONAL AND NEWS ITEMS

Frank B. McCutcheon, Jr., of Fayetteville, recently was certified by the American Board of Plastic Surgery as a diplomate of the American Board of Plastic Surgery, one of eleven practicing physicians in Arkansas.

J. Y. Massey, a Mountain Home ophthalmologist, was recently selected to attend the annual conference of the Association of Military Surgeons of the United States. AMSUS is an honorary society composed of active duty members of the Armed Forces Health Team.

Stress management was the topic for a lecture given recently by *Sam McGuire, M.D.,* a Forrest City physician. The lecture was presented at the Forrest City Civic Center as part of a stress management seminar.

H. Joe Howe, M.D., a Hot Springs cardiovascular surgeon, discussed coronary artery disease at a recent meeting of the Hot Springs National Park Rotary Club in the Arlington Hotel.

The medical director of Arkansas Children's Hospital, *Betty A. Lowe, M.D.,* has been elected chairman of District VII of the American Academy of Pediatrices, a nationwide professional association for pediatricians. Dr. Lowe is the first physician from Arkansas to hold the district post and the first woman ever elected as district chairman for the academy.

Alfred Berger, M.D., an ophthalmologist from Helena, recently retired. He was presented a certificate in recognition of his 34 years of service to the Helena Hospital.

The new president of the Phillips County Chamber of Commerce is *P. Vasudevan, M.D.,* a Helena urologist. Dr. Vasudevan will hold the position throughout 1987.



NEW MEMBERS

ASHLEY COUNTY MEDICAL SOCIETY

DERAMOS, AGAPITO Y., Pediatrics, Wilmot. Born September 14, 1931, Philippines. Premedical education, University of Santo Tomas, 1951. Medical Education, University of Santo Tomas College of Medicine, 1956. Internship, St. Elizabeth Hospital, Chicago, IL. Residency, University of Illinois Hospital and Illinois Masonic Hospital, Chicago. Private practice, 25 years. Teaching appointments, Clinical Assistant Professor of Pediatrics, University of Illinois. Board certified, Pediatrics. Member, Chicago Pediatric Society, American Academy of Pediatrics.

BAXTER COUNTY MEDICAL SOCIETY

COOK, JAMES T., Emergency Medicine, Mountain Home. Born Tyler, Texas. Pre-medical education, North Texas University, Denton, TX. Medical education, University of Texas, Dallas. Internship, Santa Rosa General Hospital, San Antonio, TX. Military record, U. S. Air Force,

1957-59. Private Practice, 32 years. Member, American College of Emergency Physicians.

BENTON COUNTY MEDICAL SOCIETY

ALLEN, WILLIAM MICHAEL, Cardiology, Rogers. Born September 3, 1950, Ennis, TX. Pre-medical education, Baylor University, B.S., 1973. Medical Education, University of Texas Health Sciences Center, Dallas, 1977. Internship and Residency, Wilford Hall Medical Center, Lackland Air Force Base, San Antonio, TX. Military record, U. S. Air Force, 1973-1986. Private practice, 10 years. Teaching Appointments, Internal Medicine Staff, Wilford Hall Medical Center, 1980-1982; Cardiology Staff Instructor, Brooks Air Force Base, 1982-1986; Chief of Nuclear Cardiology, Brooks Air Force Base, 1983-86. Board Certified, Cardiology. Member, American College of Cardiology.

FIORAVANTI, BERNARD LOUIS, Diagnostic Radiology, Rogers. Born December 7, 1944, Rochester, NY. Pre-medical education, Central State University, Edmond, OK, B.S., 1973. Medical education, University of Oklahoma College of Medicine, 1977. Internship, University Hospital & Clinics, Oklahoma Memorial Hospital, Radiology. Residency, Oklahoma Memorial Hospital, Diagnostic Radiology. Military record, U. S. Marine Corps, 1963-1969. Private practice, 6 years. Board certified, Radiology. Member, American College of Radiology, Radiological Society of North America.

HALL, DAVID C., Family Practice, Gravette. Born October 9, 1954, Bentonville, AR. Pre-medical education, University of Arkansas, Fayetteville, B.S., 1977. Medical education, University of Arkansas for Medical Sciences, Little Rock, 1983. Internship and Residency, University of Texas Southwestern Program, John Peter Smith Hospital, Fort Worth, TX. Board eligible, Family Practice.

TUCKER, DAVID J., Family Practice, Gravette. Born February 22, 1957, Minneapolis, MN. Pre-medical education, Michigan Technological University, B.S., 1979. Medical education, University of Michigan, 1983. Internship and Residency, University of Texas Southwestern Program, John Peter Smith Hospital, Fort Worth, TX. Private practice, 4 months. Board certified, Family Practice.

COLUMBIA COUNTY MEDICAL SOCIETY

EVANS, MATTHEW L., General Practice, Magnolia. Born March 17, 1957, Ft. Jackson, SC. Pre-medical education, Southern Arkansas University, B.S., 1980. Medical education, University of Arkansas for Medical Sciences, 1985. Internship, University of Arkansas for Medical Sciences. Private practice, 1 year. Member, American Academy of Family Physicians, American Medical Association.

JEFFERSON COUNTY MEDICAL SOCIETY

WATSON, CHARLES RAY, Anesthesiology, Pine Bluff. Born January 29, 1955, Newport, AR. Pre-medical education, Arkansas State University, B.S., 1977. Medical education, University of Arkansas for Medical Sciences, 1981. Internship and Residency, Cleveland Clinic Foundation, Anesthesiology. Private Practice, 3 years. Teaching appointments, Associate Professor of Anesthesiology, Case Western School of Medicine. Board eligible, Anesthesiology. Member, Ohio Society of Anesthesiologists; American Society of Anesthesiologists.

PULASKI COUNTY MEDICAL SOCIETY

COLWELL, KAREN LOUISE, Internal Medicine, Little Rock. Born July 27, 1956, Saline County, AR. Pre-medical education, University of Arkansas, Fayetteville, B.S., 1978. Medical education, University of Arkansas for Medical Sciences, 1984. Internship and Residency, University of Arkansas for Medical Sciences, Internal Medicine. Board eligible.

WASHINGTON COUNTY MEDICAL SOCIETY

THOMAS, ELLIDEE DOTSON, Developmental Neurology-Pediatrics, Fayetteville. Born July 20, 1926, Huntsville, AR. Pre-medical education, University of Arkansas Fayetteville, B.A., 1947 and University of Texas Medical Branch, School of Physical Therapy, certificate. Medical education, University of Arkansas for Medical Sciences, 1958. Internship, Jefferson Davis Hospital, Houston, TX. Residencies, Pediatrics, and Pediatric Fellow, Neurology, Baylor University Affiliated Hospitals, Houston; and Pediatric Neurology, University of Oklahoma Medical Center. Military record, U. S. Air Force, 1952-1954. Private Practice, 21 years. Board certified, Pediatrics. Member, American Academy of Pediatrics; Child Neurology Society, American Academy for Cerebral Palsy and Developmental Medicine; Ameri-

can Academy of Neurology.

WHITE COUNTY MEDICAL SOCIETY

McADAMS, EDWARD L., Pediatrics, Searcy. Born December 12, 1956, Magnolia, AR. Pre-medical education, Southern Arkansas University, B.S., 1979. Medical education, University of Arkansas for Medical Sciences, 1983. Residency, University of Missouri at Columbia, Pediatrics. Teaching appointments, chief resident, Columbia, MO. Board eligible. Member, Junior Fellow, American Academy of Pediatrics.

YELL COUNTY MEDICAL SOCIETY

GRAVES-TIPPIN, KIM, General and Emergency Medicine, Ola. Born January 31, 1959, Russellville, AR. Pre-medical education, Arkansas Tech University, B.S., 1981. Medical education, University of Arkansas for Medical Sciences, 1985. Internship, University of Arkansas. Private Practice, 3 months.

RESIDENT MEMBERS

FARRELL, STELLA BRIDGET, Freshman. Born February 22, 1965, Derby, England. Pre-medical education, Hendrix College, B.A., 1986.

HEDRICK, WILLIAM PERRY, Freshman. Born April 3, 1962, Springfield, MO. Pre-medical education, University of Arkansas, Fayetteville, B.A., 1985.

JONES, JUDITH REE, Freshman. Born July 17, 1949, Memphis, TN. Pre-medical education, Arkansas State University, B.F.A., 1977; M.S., 1987.

PORTER, MARTIN DOUGLAS, Sophomore. Born June 2, 1961, Millington, TN. Pre-medical education, University of Arkansas, Little Rock, B.S., 1984.

CORRECTION: In the December 1986 Journal, Dr. Kenneth Tonymon was listed as a Neurologist. Dr. Tonymon is a Neurosurgeon.



OBITUARY

J. CLYDE HART, M.D.

Dr. J. Clyde Hart, a Pine Bluff pediatrician, died January 8, 1987. He was 66.

Dr. Hart was the former chief of staff at Jefferson Regional Medical Center and the former president of the Jefferson County Medical Society. Dr. Hart was also an emeritus member of the Arkansas Medical Society and a member of the American Medical Association.

Dr. Hart was the secretary and chief of the pediatric section of the Southern Medical Association, an assistant professor of pediatrics at the University of Arkansas for Medical Sciences, a World War II veteran and a Korean war Army veteran.

Dr. Hart is survived by his wife, Lady Gay Cox Hart; a son, J. Clyde Hart III of Houston; and three daughters, Mrs. Dick Parson of Hot Springs; Mrs. Bill Basham of Belmont, California, and Sandra Spencer of Marshall, Texas.

J. K. LAWS, M.D.

Dr. J. K. Laws, 73, of Texarkana, died December 25, 1986. Dr. Laws was 73.

Dr. Laws was the retired chief of anesthesia at St. Michael's Hospital. He was a member of the Bowie-Miller County Medical Society, an emeritus member of the Arkansas Medical Society and a member of the American Medical Association. He was also a member of the American Society of Anesthesiologists.

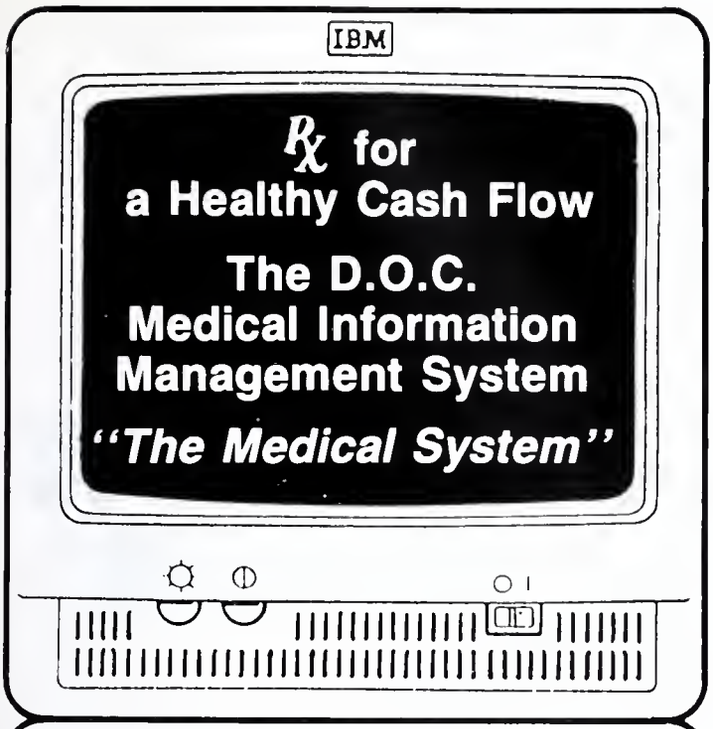
Survivors are his wife, Mrs. Viola Jones Laws; two sons, James Laws of DeQueen and John Laws of Commerce, Texas; and two daughters, Patricia Ann Laws of Arlington, Texas and Kathryn Elaine Laws of Fort Worth, Texas.

ORVILLE "O. B." McCOY, M.D.

Dr. Orville "O. B." McCoy, aged 77, of Harrison, died December 20, 1986. Dr. McCoy was a general practitioner and was one of the seven original doctors on staff at Boone County Hospital when it opened in 1950.

Dr. McCoy was a member of the American Medical Association and a life member of the Arkansas Medical Society. He was also a member of the Academy of General Practitioners and former chief of staff at Boone County Hospital. He was a flight surgeon in the U. S. Army Air Corps and a member of the Elks and Rotary Clubs.

Dr. McCoy is survived by his wife, Airis McCoy, Harrison; a son, Mike McCoy, Hot Springs; a stepson, David Coffey, Everton and two daughters, Kay Turner, Annadale, Virginia; and Mary F. Burton, Germantown, Tennessee.



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If the child is not treated immediately, his or her blood sugar can go out of control leading to what is called diabetic ketoacidosis. Which in turn can lead to diabetic coma. The warning signs for diabetic ketoacidosis include excessive urination, great thirst, stomach pain, nausea and vomiting, dehydration which can lead to dry lips and sunken eyes, rapid breathing, followed by sleepiness.

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A message from the
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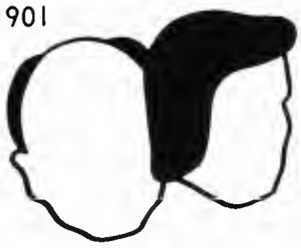
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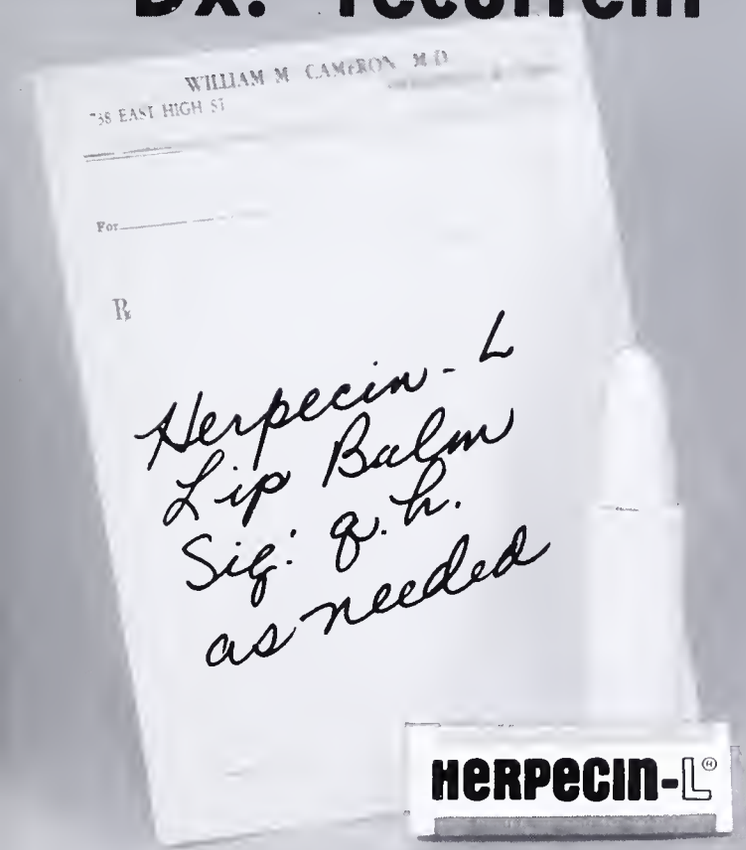
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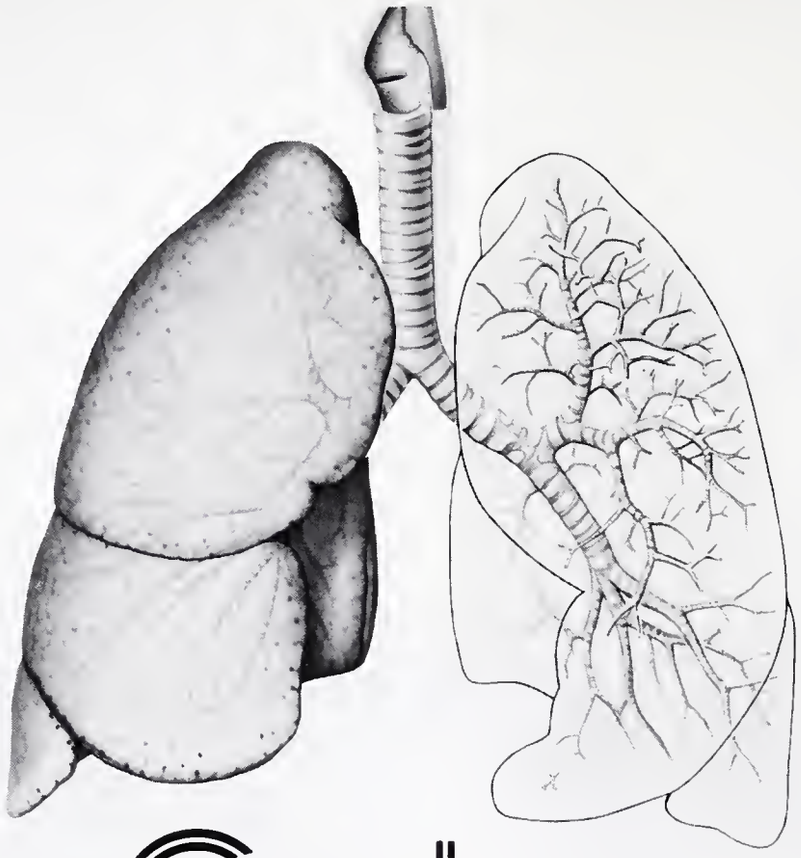
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Ceclor® (cefaclor)

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Indications: Lower respiratory infections, including pneumonia, caused by susceptible strains of *Streptococcus pneumoniae, Haemophilus influenzae,* and *S. pyogenes* (group A beta-hemolytic streptococci).

Contraindications: Known allergy to cephalosporins.

Warnings: CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:

- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- In renal impairment, safe dosage of Ceclor may be lower than that usually recommended. Ceclor should be administered with caution in such patients.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:

- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, erythema multiforme, serum-sickness-like reactions): 1.5%; usually subside within a few days after cessation of therapy. These reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%.

Abnormalities in laboratory results of uncertain etiology

- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children)
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- Positive direct Coombs' test
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (glucose enzymatic test strip, Lilly)

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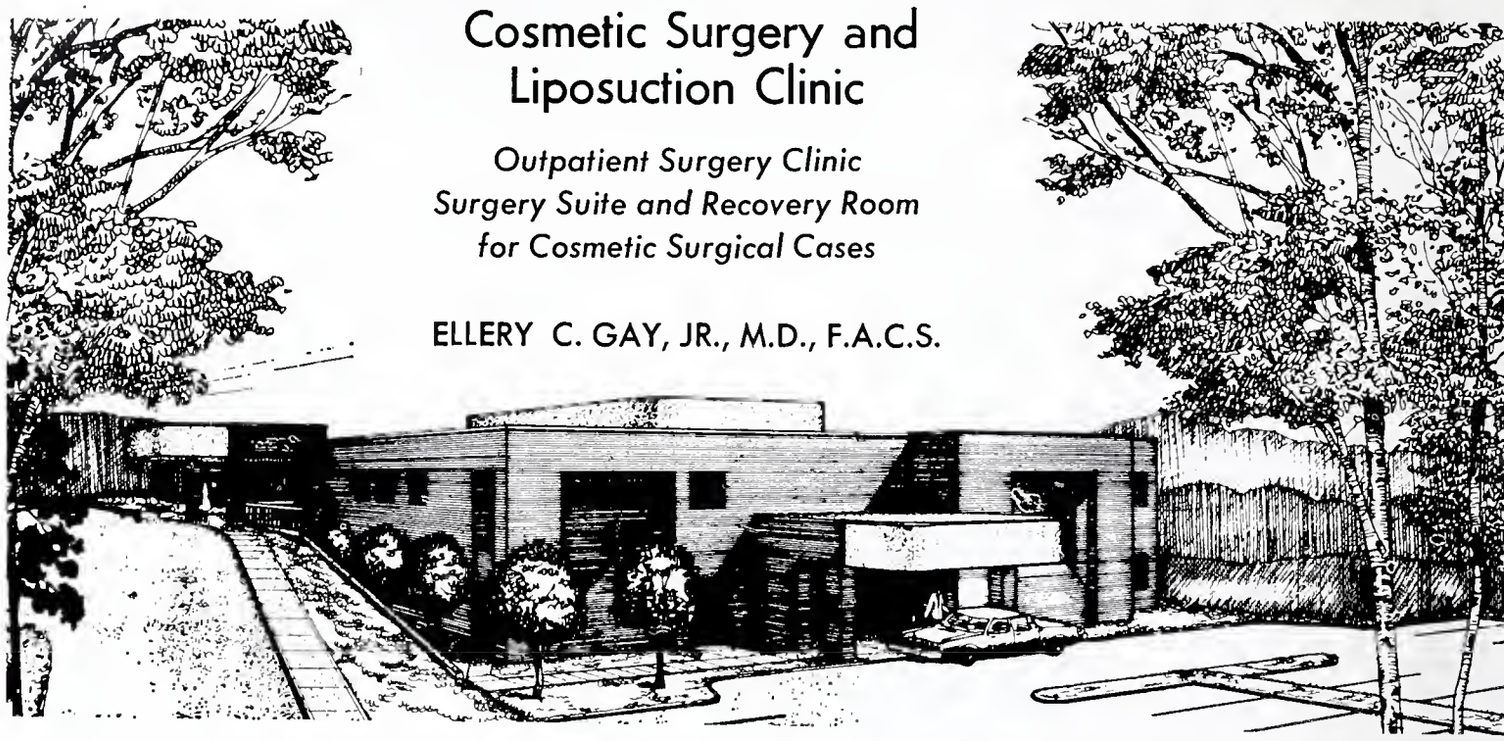
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efore prescribing, see complete prescribing information in SK&F CO. erature or *PDR*. The following is a brief summary.

WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

ontraindications: Concomitant use with other potassium-sparing agents ch as spironolactone or amiloride. Further use in anuria, progressive nal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum tassium. Hypersensitivity to either component or other sulfonamide-rived drugs.

arnings: Do not use potassium supplements, dietary or otherwise, less hypokalemia develops or dietary intake of potassium is markedly paired. If supplementary potassium is needed, potassium tablets ould not be used. Hyperkalemia can occur, and has been associated th cardiac irregularities. It is more likely in the severely ill, with urine lume less than one liter/day, the elderly and diabetics with suspected confirmed renal insufficiency. Periodically, serum K^+ levels should be termined. If hyperkalemia develops, substitute a thiazide alone, restrict $^+$ intake. **Associated widened QRS complex or arrhythmia requires ompt additional therapy.** Thiazides cross the placental barrier and ppear in cord blood. Use in pregnancy requires weighing anticipated enefits against possible hazards, including fetal or neonatal jaundice, rombocytopenia, other adverse reactions seen in adults. Thiazides ppear and triamterene may appear in breast milk. If their use is essential, e patient should stop nursing. Adequate information on use in children not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or tivation of systemic lupus erythematosus has been reported with nazide diuretics.

recautions: The bioavailability of the hydrochlorothiazide component of yazide' is about 50% of the bioavailability of the single entity. heoretically, a patient transferred from the single entities of triamterene d hydrochlorothiazide may show an increase in blood pressure or fluid tention. Similarly, it is also possible that the lesser hydrochlorothiazide oavailability could lead to increased serum potassium levels. However, tensive clinical experience with 'Dyazide' suggests that these conditions ve not been commonly observed in clinical practice. Angiotensin-nverting enzyme (ACE) inhibitors can elevate serum potassium; use th caution with 'Dyazide'. Do periodic serum electrolyte determinations rticularly important in patients vomiting excessively or receiving renteral fluids, and during concurrent use with amphotericin B or rticosteroids or corticotropin [ACTH]). Periodic BUN and serum eatinine determinations should be made, especially in the elderly, abetics or those with suspected or confirmed renal insufficiency. mulative effects of the drug may develop in patients with impaired renal nction. Thiazides should be used with caution in patients with impaired patic function. They can precipitate coma in patients with severe liver sease. Observe regularly for possible blood dyscrasias, liver damage, her idiosyncratic reactions. Blood dyscrasias have been reported in tients receiving triamterene, and leukopenia, thrombocytopenia, ranulocytosis, and aplastic and hemolytic anemia have been reported th thiazides. Thiazides may cause manifestation of latent diabetes ellitus. The effects of oral anticoagulants may be decreased when ed concurrently with hydrochlorothiazide; dosage adjustments may be cessary. Clinically insignificant reductions in arterial responsiveness norepinephrine have been reported. Thiazides have also been shown to crease the paralyzing effect of nondepolarizing muscle relaxants such tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic od studies in cirrhotics with splenomegaly. Antihypertensive effects ay be enhanced in post-sympathectomy patients. Use cautiously in rgical patients. Triamterene has been found in renal stones in association n with the other usual calculus components. Therefore, 'Dyazide' ould be used with caution in patients with histories of stone formation. few occurrences of acute renal failure have been reported in patients 'Dyazide' when treated with indomethacin. Therefore, caution is vised in administering nonsteroidal anti-inflammatory agents with yazide'. The following may occur: transient elevated BUN or creatinine both, hyperglycemia and glycosuria (diabetic insulin requirements may altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), creasing alkali reserve with possible metabolic acidosis. 'Dyazide' erferes with fluorescent measurement of quinidine. Hypokalemia is common with 'Dyazide', but should it develop, corrective measures ould be taken such as potassium supplementation or increased dietary ake of potassium-rich foods. Corrective measures should be instituted utiously and serum potassium levels determined. Discontinue correc-e measures and 'Dyazide' should laboratory values reveal elevated rum potassium. Chloride deficit may occur as well as dilutional ponatremia. Concurrent use with chlorpropamide may increase the risk severe hyponatremia. Serum PBI levels may decrease without signs thyroid disturbance. Calcium excretion is decreased by thiazides. yazide' should be withdrawn before conducting tests for parathyroid nction. Thiazides may add to or potentiate the action of other anti-pertensive drugs. Diuretics reduce renal clearance of lithium and crease the risk of lithium toxicity.

iverse Reactions: Muscle cramps, weakness, dizziness, headache, y mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other rmatological conditions; nausea and vomiting, diarrhea, constipation, her gastrointestinal disturbances; postural hypotension (may be gravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, resthesias, icterus, pancreatitis, xanthopsia and respiratory distress cluding pneumonitis and pulmonary edema, transient blurred vision, aladenitis, and vertigo have occurred with thiazides alone. Triamterene s been found in renal stones in association with other usual calculus mponents. Rare incidents of acute interstitial nephritis have been ported. Impotence has been reported in a few patients on 'Dyazide', hough a causal relationship has not been established.

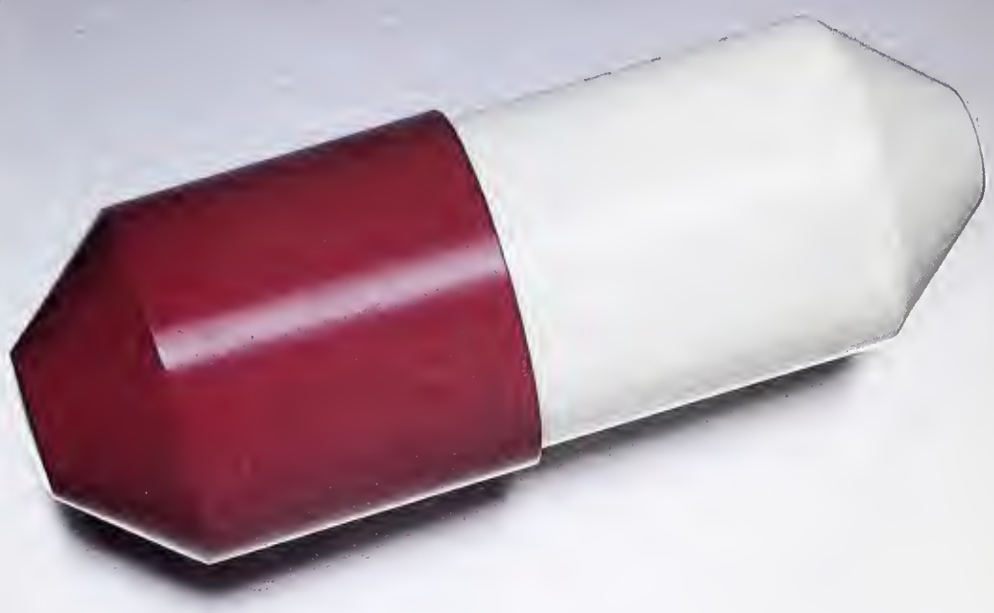
pplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 00 capsules; Single Unit Packages (unit-dose) of 100 (intended for stitutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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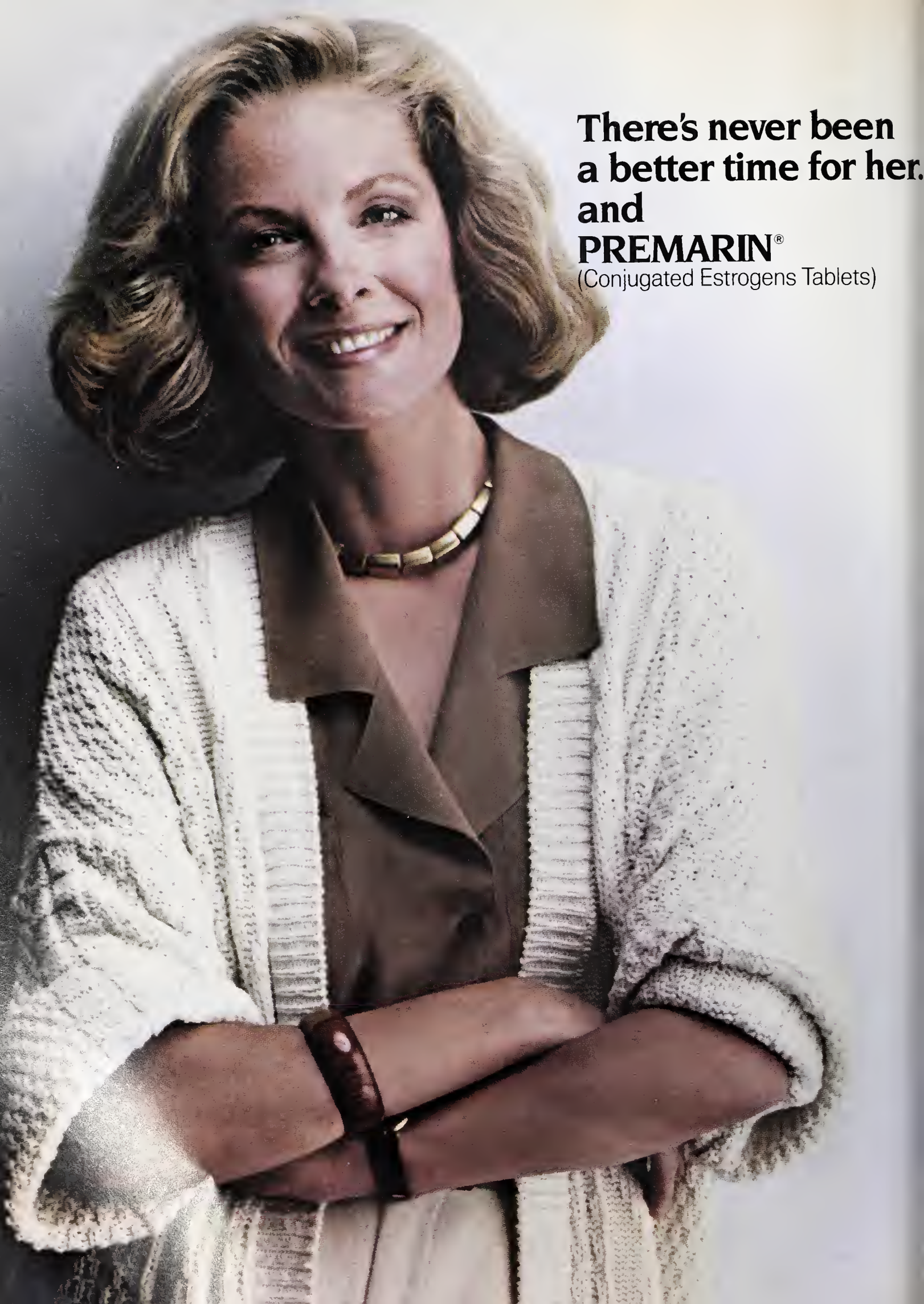
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Endometrial hyperplasia was significantly reduced when progestin was added to PREMARIN therapy for more than ten days a month.[1-4] The risk of endometrial hyperplasia may also be reduced through cyclic administration of unopposed, low-dose PREMARIN.

Effect on lipids—an important feature

PREMARIN used alone does not adversely affect lipid levels. In fact, a clinical study has shown a significant increase in HDL cholesterol—from 49.7 mg/dL to 56.4 mg/dL—and decrease in LDL cholesterol—from 165.1 mg/dL to 138.1 mg/dL—after one year of therapy with PREMARIN, 0.625 mg.[5]

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PREMARIN effectively relieves vasomotor symptoms, such as hot flashes. When estrogen deficiency is limited to atrophic vaginitis, PREMARIN® (conjugated estrogens) Vaginal Cream restores the vaginal environment to its premenopausal state.

The most widely used, most extensively studied estrogen worldwide.

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Most trusted for more reasons

*PREMARIN is indicated for moderate-to-severe vasomotor symptoms.

Please see following page for brief summary of prescribing information.

For moderate-to-severe vasomotor symptoms

PREMARIN®
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0.3 mg 0.625 mg 0.9 mg 1.25 mg 2.5 mg

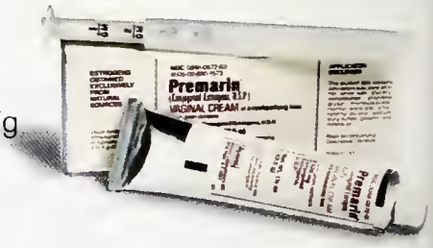
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For atrophic vaginitis

PREMARIN®
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Vaginal Cream

0.625mg/g



BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION AND PATIENT INFORMATION, SEE PACKAGE CIRCULARS.)*

PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream in a nonliquefying base

1 ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK OF ENDOMETRIAL CARCINOMA

Three independent case control studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer. These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade. The three case control studies reported that the risk of endometrial cancer in estrogen users was about 4.5 to 13.9 times greater than in nonusers. The risk appears to depend on both duration of treatment and on estrogen dose. In view of these findings, when estrogens are used for the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible. When prolonged treatment is medically indicated, the patient should be reassessed on at least a semiannual basis to determine the need for continued therapy. Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration; it therefore appears prudent to utilize such a regimen. Close clinical surveillance of all women taking estrogens is important. In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy. There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equiestrogenic doses.

2. ESTROGENS SHOULD NOT BE USED DURING PREGNANCY.

The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring. It has been shown that females exposed in utero to diethylstilbestrol, a non-steroidal estrogen, have an increased risk of developing in later life a form of vaginal or cervical cancer that is ordinarily extremely rare. This risk has been estimated as not greater than 4 per 1,000 exposures. Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix. Although these changes are histologically benign, it is not known whether they are precursors of malignancy. Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes. Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb reduction defects. One case control study estimated a 4.7-fold increased risk of limb reduction defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment for threatened abortion). Some of these exposures were very short and involved only a few days of treatment. The data suggest that the risk of limb reduction defects in exposed fetuses is somewhat less than 1 per 1,000. In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion. There is considerable evidence that estrogens are ineffective for these indications, and there is no evidence from well controlled studies that progestogens are effective for these uses. If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation.

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine. It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters. Tablets are available in 0.3 mg, 0.625 mg, 0.9 mg, 1.25 mg, and 2.5 mg strengths of conjugated estrogens. Cream is available as 0.625 mg conjugated estrogens per gram.

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets, USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause. (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions.) **Osteoporosis (abnormally low bone mass).** Atrophic vaginitis. Kraurosis vulvae. Female castration.

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae. PREMARIN HAS NOT BEEN SHOWN TO BE EFFECTIVE FOR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING).

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized. Studies of the addition of a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia. Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes. Whether this will provide protection from endometrial carcinoma has not been clearly established. There are possible additional risks which may be associated with the inclusion of progestin in estrogen replacement regimens. (See PRECAUTIONS.) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects.

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions: 1. Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease. 2. Known or suspected estrogen-dependent neoplasia. 3. Known or suspected pregnancy (See Boxed Warning.) 4. Undiagnosed abnormal genital bleeding. 5. Active thrombophlebitis or thromboembolic disorders. 6. A past history of thrombophlebitis, thrombosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy).

WARNINGS: Long-term continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver. There are now reports that estrogens increase the risk of carcinoma of the endometrium in humans. (See Boxed Warning.) At the present time there is no satisfactory evidence that estrogens given to postmenopausal women increase the risk of cancer of the breast, although a recent study has raised this possibility. There is a need for caution in prescribing estrogens for women with a strong family history of breast cancer or who have breast nodules, fibrocystic disease, or abnormal mammograms. A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens.

Adverse effects of oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women for postpartum breast engorgement. Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke, and myocardial infarction. Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users. An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives. If feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization. Estrogens should not be used in persons with active thrombophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use. They should be used with caution in patients with cerebral vascular or coronary artery disease. Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nontatal myocardial infarction, pulmonary embolism and thrombophlebitis. When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk.

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock. Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives. Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use. A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives. For this reason, diabetic patients should be carefully observed. Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases.

PRECAUTIONS: Physical examination and a complete medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear. As a general rule, estrogen should not be prescribed for longer than one year without another physical examination being performed. Conditions influenced by fluid retention such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation. Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc. Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients. Oral contraceptives appear to be associated with an increased incidence of mental depression. Patients with a history of depression should be carefully observed. Preexisting uterine leiomyomata may increase in size during estrogen use. The pathologist should be advised of estrogen therapy when relevant specimens are submitted. If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated. Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not complete. If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism.

The following changes may be expected with larger doses of estrogen:

a. Increased sulfobromophthalein retention.

b. Increased prothrombin and factors VII, VIII, IX, and X; decreased antithrombin 3; increased norepinephrine-induced platelet aggregability.

c. Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T4 by column, or T4 by radioimmunoassay. Free T3 resin uptake is decreased, reflecting the elevated TBG; free T4 concentration is unaltered.

d. Impaired glucose tolerance.

e. Decreased pregnanediol excretion.

f. Reduced response to metyrapone test.

g. Reduced serum folate concentration.

h. Increased serum triglyceride and phospholipid concentration. As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk.

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives: breakthrough bleeding, spotting, change in menstrual flow; dysmenorrhea; premenstrual-like syndrome; amenorrhea during and after treatment; increase in size of uterine fibromyomata; vaginal candidiasis, change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, bloating; cholestatic jaundice; chloasma or melasma which may persist when drug is discontinued; erythema multiforme; erythema nodosum; hemorrhagic eruption; loss of scalp hair; hirsutism; steepening of corneal curvature; intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea; increase or decrease in weight; reduced carbohydrate tolerance; aggravation of porphyria, edema, changes in libido.

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females.

DOSAGE AND ADMINISTRATION:

PREMARIN® Brand of conjugated estrogens tablets, USP

1. *Given cyclically for short-term use only.* For treatment of moderate to severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0.3 to 1.25 mg or more daily). The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible. Administration should be cyclic (eg, three weeks on and one week off). Attempts to discontinue or taper medication should be made at three- to six-month intervals.

2. *Given cyclically.* Female castration. Osteoporosis. Female castration—1.25 mg daily, cyclically. Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control. Osteoporosis —0.625 mg daily. Administration should be cyclic (eg, three weeks on and one week off).

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

PREMARIN® Brand of conjugated estrogens Vaginal Cream

Given cyclically for short-term use only. For treatment of atrophic vaginitis or kraurosis vulvae.

The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible.

Administration should be cyclic (eg, three weeks on and one week off).

Attempts to discontinue or taper medication should be made at three-to-six month intervals.

Usual dosage range: 2 to 4 g daily, intravaginally, depending on the severity of the condition.

Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

References:

1. Whitehead MI, Townsend PT, Pryse-Davies J, et al: Effects of estrogens and progestins on the biochemistry and morphology of the postmenopausal endometrium. *N Engl J Med* 1981;305:1599-1605. **2.** Paterson MEL, Wade-Evans T, Sturdee DW, et al: Endometrial disease after treatment with oestrogens and progestogens in the climacteric. *Br Med J* 1980;280:822-824. **3.** Magos AL, Brincat M, Studd JWW, et al: Amenorrhea and endometrial atrophy with continuous oral estrogen and progestogen therapy in postmenopausal women. *Obstet Gynecol* 1985; 67: 496-499. **4.** Whitehead MI, Lane G, Siddle N, et al: Avoidance of endometrial hyperstimulation in estrogen-treated postmenopausal women. *Semin Reprod Endocrinol* 1983;1:1;41-52. **5.** Barnes RB, Roy S, Lobo RA: Comparison of lipid and androgen levels after conjugated estrogen or depo-medroxyprogesterone acetate treatment in postmenopausal women. *Obstet Gynecol* 1985;66:216-219.

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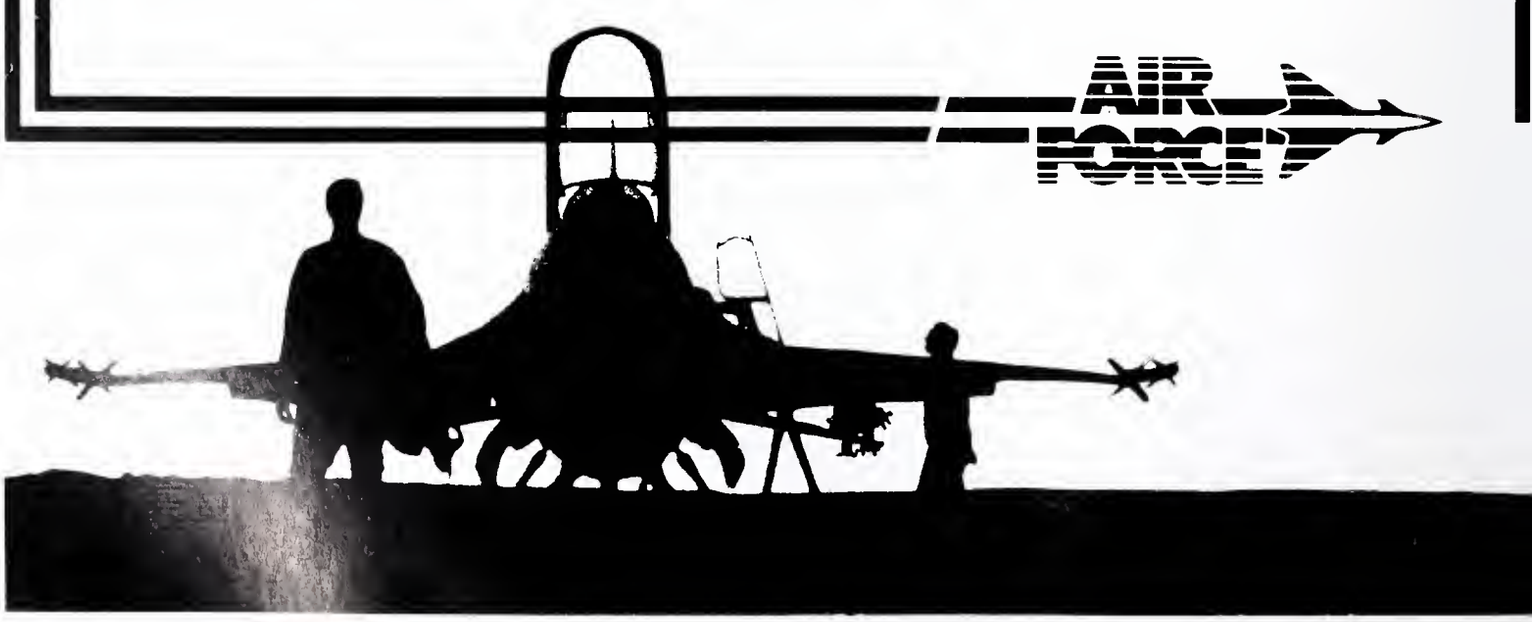
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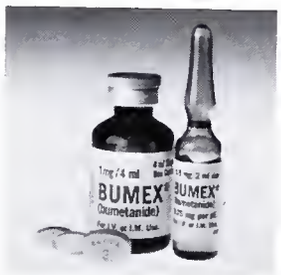
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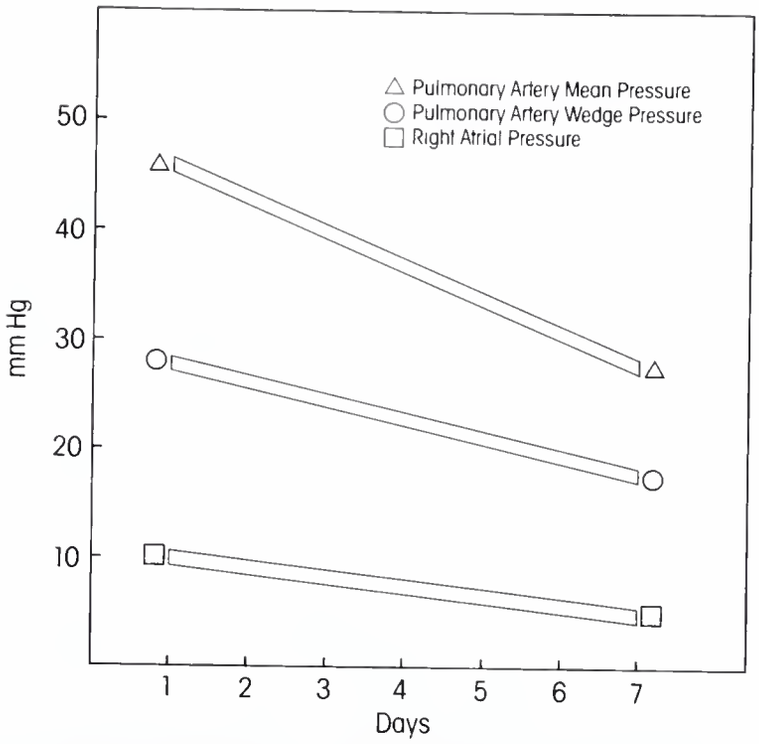
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SPECIAL IN THIS ISSUE

Annual Session Program 389
Guest Editorial by Dr. Amail Chudy 377

SCIENTIFIC

An Arkansas Breast Cancer Education Project 369

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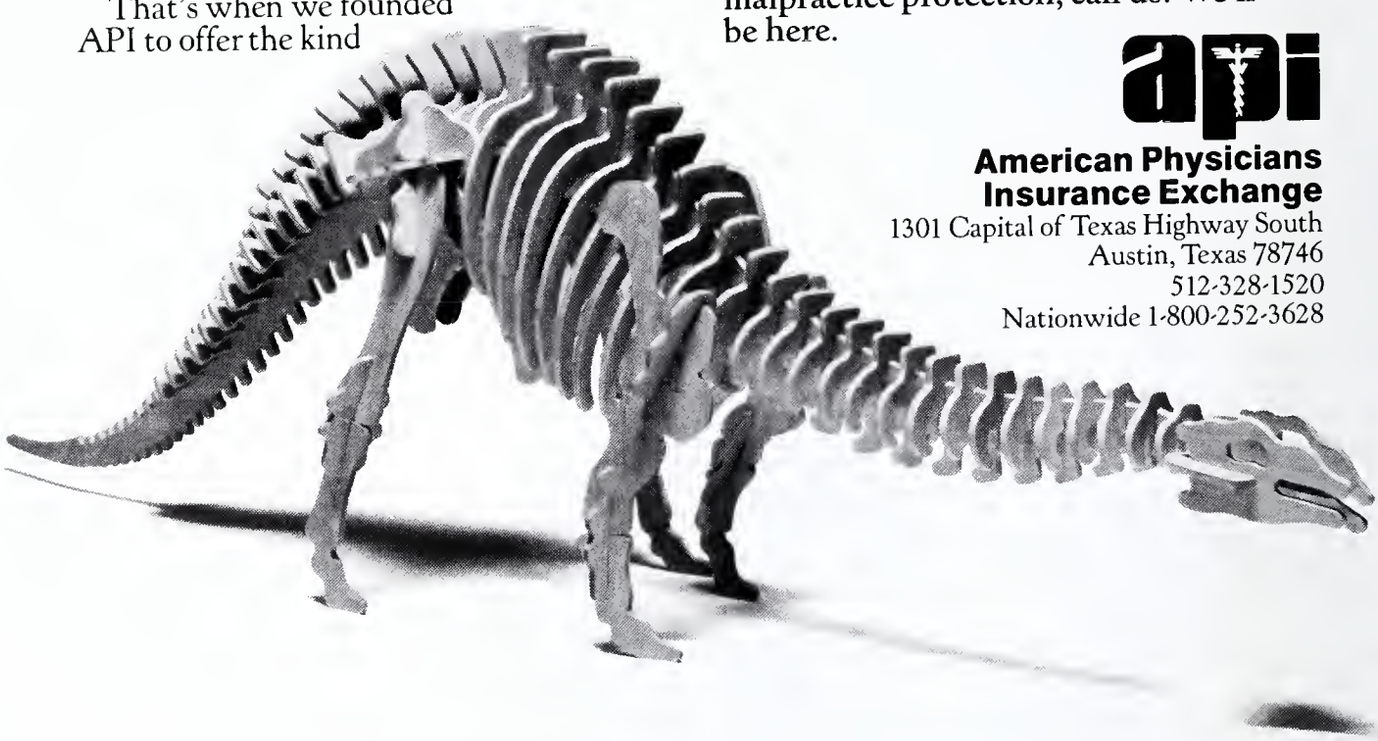
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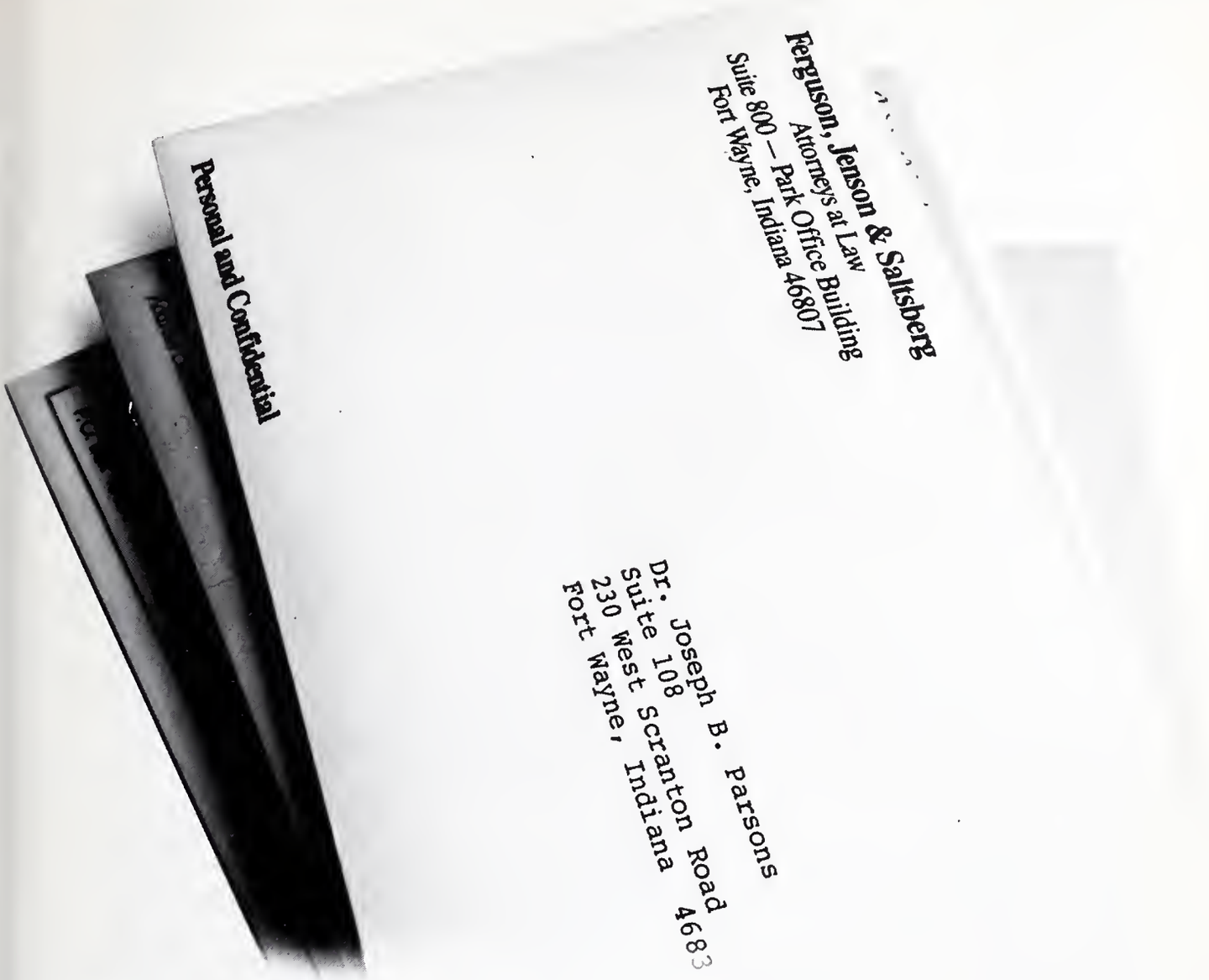
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CONTENTS

SCIENTIFIC ARTICLES

The Diagnosis of Dementia 365
J. A. Alexander

An Arkansas Breast Cancer Education Project 369
Deborah O. Erwin, Ph.D.
Carolyn Thompson, M.S.

FEATURES

EKG of the Month 374

Multi-Modality Treatment of
Gallbladder Carcinoma 375
John C. Jones, M.D.
Lawrence A. Mendelsohn, M.D.

Guest Editorial: *D. R. Harris, M.D.*
"Annual Session: Why Is It Important?" 377
Amail Chudy, M.D.

From Other Years 378

Keeping Up 378

Things To Come 381

Personal and News Items 383

New Members 383

Annual Session Program and Committee Reports 389

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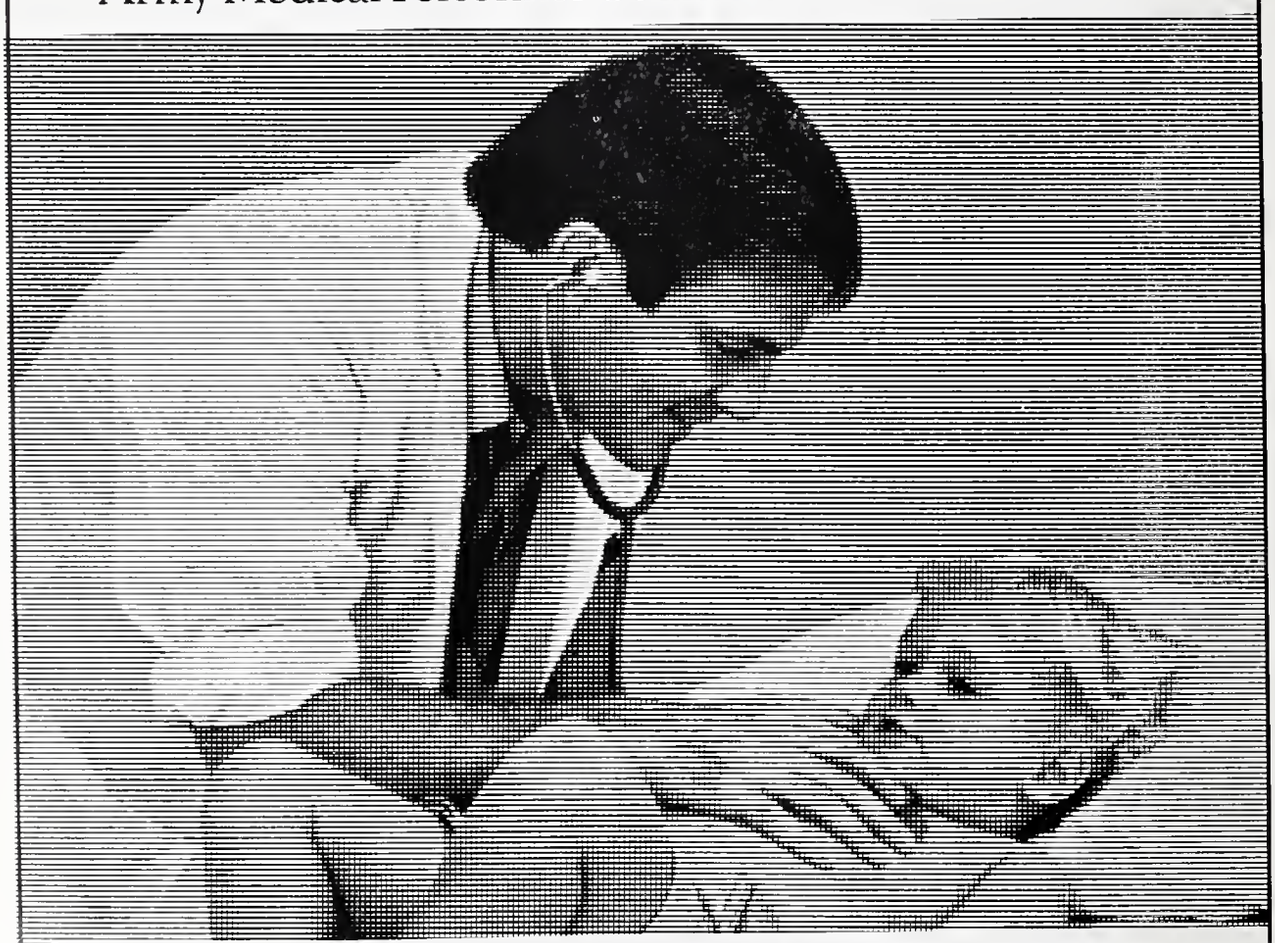
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The Diagnosis of Dementia

*J. A. Alexander, M.D., A. Janati, M.D., J. C. Holder, M.D. and M. Blanton, M.D.**

Abstract

While Alzheimer's disease is the most common cause of dementia in the United States today, several other diseases can present with similar symptoms. Elderly patients presenting with memory loss etc. should not be relegated to the Alzheimer category without ruling out other causes of dementia.

Introduction

Dementia is a serious health problem in the United States today, with an overall incidence of from 5% to 11% after age sixty-five.[1] Alzheimer's disease alone affects over 100,000 Americans per year, resulting in loss of memory, and inability to care for themselves, and eventually death from various complications affecting bedridden patients.[2] Most of the patients are elderly but their symptoms are not the result of aging per se. No unique pattern of behavioral abnormalities has been established that would allow us to make the diagnosis clinically, and brain biopsy is the only absolute diagnostic tool.[3]

Research is presently being conducted along several different lines, including a genetic model, possible abnormal proteins in the brain, infectious etiology, toxins (aluminum), and abnormal blood flow. Perhaps the most promising model is directed toward a decrease in acetylcholine in the hippocampus and the cerebral cortex.[2] Whatever the eventual etiology proves to be, the major task for the clinician seems to be finding patients with similar symptoms but with curable or treatable causes.

Alzheimer's disease remains a difficult diagnosis by non-invasive methods. In classic cases, CT scans show cerebral atrophy and dilatation of the ventricles, but many patients have non-diagnostic scans (Fig. 1). Also, other cerebral diseases can cause atrophy and ventricular dilatation. Recent work using MRI (magnetic resonance imaging) and PET (positron emission tomography) does show some promise in detecting the more subtle aspects of this disease but at present, in most centers, it remains a diagnosis of exclusion.[4] With the introduction of MRI, detection of more subtle abnormalities may become possible. MRI gives better differentiation between gray and white matter. It is more sensitive in visualizing small infarcts which helps rule out subtle cases of multi-infarct dementia (Fig. 2). With new advances in chemical shift imaging, MRI may be able to visualize the iron deposits known to occur with Alzheimer's disease.

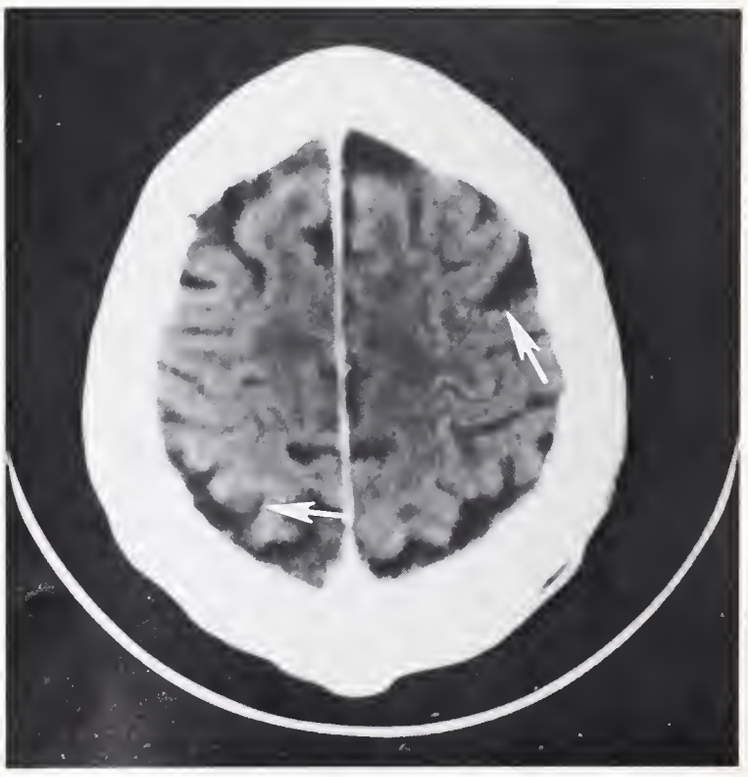


Figure 1.

59 year old man with a history of personality changes and progressive memory loss. Neurological examination revealed fluent speech associated with relatively intact repetition but impaired word-finding and auditory comprehension, severe memory loss, and constructional apraxia. CT shows typical findings in Alzheimer's disease — note the very prominent sulci (arrows) giving rise to the "cracked walnut" appearance of the brain.

*Departments of Radiology and Neurology, University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Arkansas 72205

Clinical Findings in Senile Dementia of the Alzheimer's Type

In the initial stages of the disease, morbid changes in personality are common. These may include obstinacy, miserliness, extreme jealousy, and increased demand for personal attention. Mood alterations are equally important, consisting of depression or anxiety. Other early manifestations may include attentional deficits, sleep disturbance, poor judgement, paranoid ideations, and memory impairments.[5] The latter is characterized by impairment of immediate and short-term memory. However, there is improvement of short-term memory with practice (cortical amnesia).[6] Neurological examination in this stage is usually unremarkable.

The cardinal features of the intermediate stage include disorientation, confusion, aphasia (primarily of the transcortical sensory type),[7] and apraxia. Other manifestations include confabulation, affective symptomatology, paranoid delusions, and hallucinations (primarily visual). Performance at work soon deteriorates and the patient may frequently get lost in familiar surroundings due to "visual-spatial" disorientation. Due to progressive deterioration of the patient's intellectual functions, the patient will become dependent on spouse in handling financial affairs and making day-to-day decisions. Activities of daily living are severely affected to the point that the patient can no longer feed and dress himself. With further progression of the disease, the patient will lose the ability to recognize familiar faces, including those of his wife and children (prosopagnosia). Neurological examination may show postural tremor of the hands, parkinsonism, frontal lobe signs, and myoclonic jerks. Seizures and visual field defects may also occur.

The disease will relentlessly progress over a period of months to years and will eventually lead to total incapacitation of the victim. The late stage of the disease is characterized by almost total loss of speech, severe parkinsonism, and urinary as well as fecal incontinence. The patient usually succumbs to an intercurrent infection.

Differential Diagnosis of Alzheimer's Disease

Clinicians often face the challenge of differentiating various types of dementia from Alzheimer's disease. This is of utmost importance because of differences in prognostic, as well as therapeutic, implications. A common differential is multi-infarct dementia.[5, 8] A careful history, as well as a thorough investigation, should enable the clinician to make a distinction between the two syndromes. In multi-infarct dementia, the onset is usually abrupt, and the dementia typically shows a "step-wise" progression rather than a "steadily downhill" course of Alzheimer's disease. A history of transient ischemic attacks (TIA's) or strokes, as well as the presence of focal neurological deficits are additional features in favor of multi-infarct dementia.[9] Hypertension may be present and arteriosclerotic vascular disease may exist elsewhere in the body.

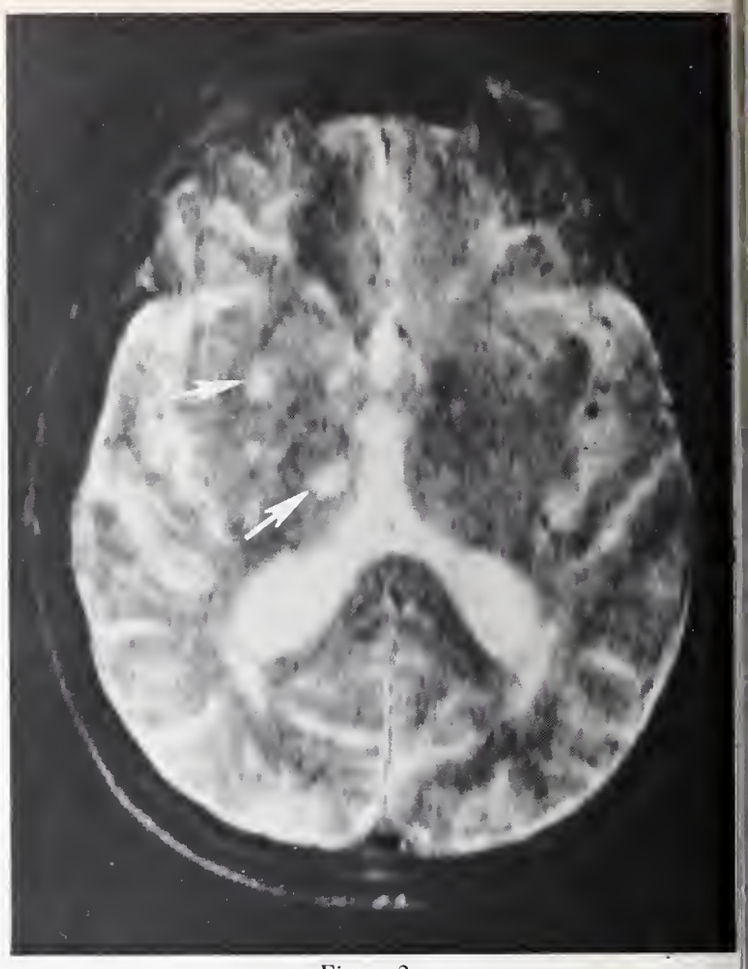


Figure 2.

64 year old male with a history of hypertension and multiple strokes. Neurological examination revealed dementia, dysphasia (associated with marked dysarthria), left spastic hemiplegia, bilateral Babinski, and frontal lobe signs. MRI shows well demarcated areas in the white matter compatible with infarcts (arrows).

Normal pressure hydrocephalus (NPH) is a treatable syndrome consisting of dementia, apraxia of gait, and urinary incontinence in various combinations (Fig. 3).[5, 10] Differentiation of NPH from Alzheimer's disease is based on several factors. First, the dementia of NPH is "frontal" in type. In this type of dementia, unlike the dementia of Alzheimer's disease, aphasia, seizures, and visual field defects do not occur, and memory disturbance occurs as a manifestation of the later stages of the disease. Personality changes, however, predominate in NPH. Secondly, apraxia of gait, an early manifestation of NPH, does not usually occur in the earlier stages of Alzheimer's disease.

Brain tumors may initially present with dementia in the absence of focal or lateralizing signs (Fig. 4, 6).[11] Other differentials should include dementias associated with metabolic abnormalities (e.g., thyroid dysfunction, B12 and folate deficiency), CNS infections (e.g., syphilis, chronic meningitis, slow virus disease), toxins (e.g., drugs such as benzodiazepines and anticholinergics), and industrial dementias (e.g., prolonged exposure to carbon monoxide).[8] Dementias associated with degenerative diseases of the brain other than Alzheimer's disease (e.g.,

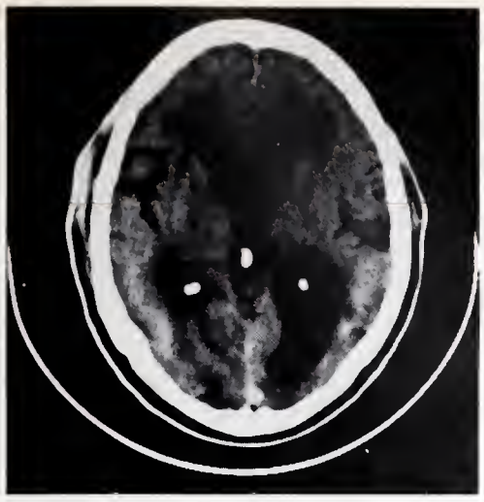


Figure 3.

56 year old male with frontal lobe dementia, apraxia of gait, and urinary incontinence. CT findings were characteristic of normal pressure hydrocephalus. The sulci are normal in size, while there is generalized enlargement of the ventricles (arrows).

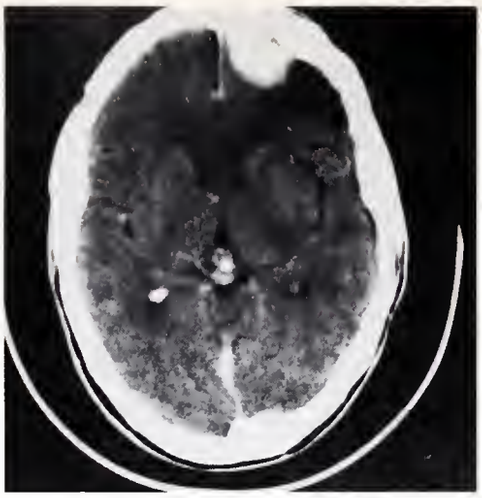


Figure 4.

40 year old male with euphoria, poor concentration and calculations, concrete thinking, and some memory impairment. CT shows a left frontal lobe meningioma. This slowly growing tumor of the meninges is a potentially curable cause of dementia (arrows).

Parkinson's disease, progressive supranuclear palsy),[12-14] Korsakoff's psychosis, and finally the dementia of affective disorder (pseudodementia)[15] may at times be confused with senile dementia of the Alzheimer's type.

Subdural hematoma typically presents with headaches and confusion (Fig. 5).[16] A history of head trauma, although helpful in making the diagnosis, cannot always be elicited. Focal or lateralizing neurological deficits may not always be present. A fracture need not be present; in fact, hematomas and brain injury may be more common following significant head trauma without fracture. Acute hematomas mimic cerebral masses with increased intracranial pressure, while chronic subdural hematomas usually cause atrophy of the brain adjacent to the hematoma.

Conclusion

While CT scans can not be relied upon to make the diagnosis of Alzheimer's disease, they are valuable in excluding the other etiologies of dementia. If a mass is seen in the brain (brain tumor, metastasis, or absess), or a subdural or epidural collection of blood is found, or typical findings of normal pressure hydrocephalus are present, then the patient may have a surgically curable disease. Also, the treatment for multi-infarct dementia is different than for Alzheimer's. MRI and PET scans seem to hold promise for diagnosis of subtle cases of Alzheimer's disease and other forms of dementia.

In conclusion, patients with new onset dementia should not be put into the pigeonhole of Alzheimer's disease until other causes of dementia have been excluded.

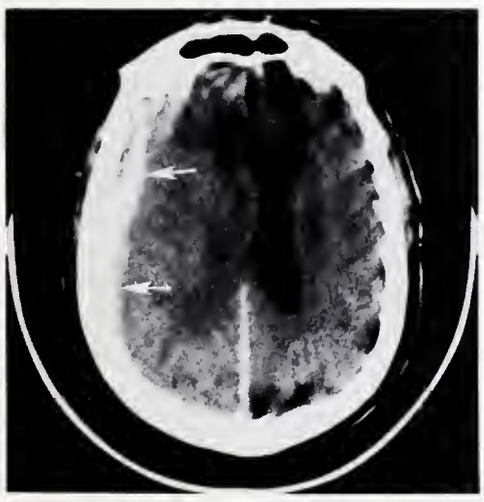


Figure 5.

53 year old male with a recent head injury followed by confusion, headaches, and lethargy. There were no focal or lateralizing neurological signs. CT shows a subdural hematoma. There is a shift of the midline structures. The subdural collection of blood is seen along the lateral aspect of the brain (arrows).

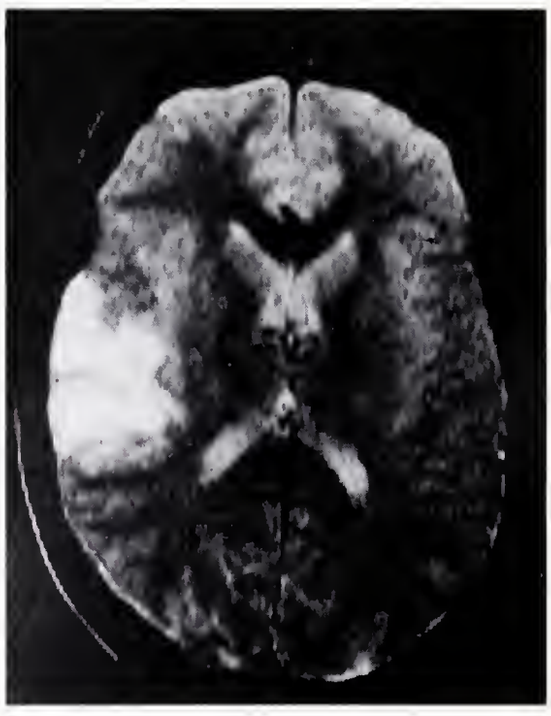


Figure 6.

42 year old male with memory impairment, affective symptomatology, motor impersistence, left homonymous hemianopia, and recent onset of seizures. MRI shows a large high density area in the right temporal lobe compatible with astrocytoma.

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The patients in the nationwide compliance trial were no different from yours. Generally when the antihypertensive regimen is complicated, compliance may become a problem. So, the effectiveness of INDERAL LA as once-daily monotherapy is a big plus. Of the remaining hypertensives in the program, 36% were controlled merely with the addition of a diuretic to INDERAL LA.

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BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR)*

INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**

DESCRIPTION. Inderal LA is formulated to provide a sustained release of propranolol hydrochloride. Inderal LA is available as 80 mg, 120 mg, and 160 mg capsules.

CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

The mechanism of the antihypertensive effect of INDERAL has not been established. Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output, (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain. Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use. Effects on plasma volume appear to be minor and somewhat variable. INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients.

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction. Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period. The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity.

In dosages greater than required for beta blockade, INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential. The significance of the membrane action in the treatment of arrhythmias is uncertain.

The mechanism of the antimigraine effect of propranolol has not been established. Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain.

Beta receptor blockade can be useful in conditions in which, because of pathologic or functional changes, sympathetic activity is detrimental to the patient. But there are also situations in which sympathetic stimulation is vital. For example, in patients with severely damaged hearts, adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved. In the presence of AV block, greater than first degree, beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction. Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm.

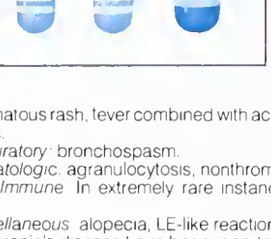
Propranolol is not significantly dialyzable.

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INDERAL® LA

(PROPRANOLOL HCl)

LONG ACTING CAPSULES



INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

WARNINGS. CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema) — PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY. The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e.g., dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA. Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin.

THYROTOXICOSIS. Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case, this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS. *General.* Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

Clinical Laboratory Tests. Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS. Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Carcinogenesis, Mutagenesis, Impairment of Fertility. Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

Pregnancy. Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. INDERAL is excreted in human milk. Caution should be exercised when INDERAL is administered to a nursing woman.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: bradycardia; congestive heart failure; intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura; arterial insufficiency, usually of the Raynaud type.

Central Nervous System: lightheadedness; mental depression manifested by insomnia, lassitude, weakness, fatigue, reversible mental depression progressing to catatonia; visual disturbances; hallucinations; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics.

Gastrointestinal: nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: bronchospasm.

Hematologic: agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL tablets to INDERAL LA capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg for mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION — *Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood-pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS — *Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three to seven day intervals until optimum response is obtained. Although individual patients may respond at any dosage level, the average optimum dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE — *Dosage must be individualized.* The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimum migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximum dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS — 80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE — At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

*The appearance of these capsules is a registered trademark of Ayerst Laboratories

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An Arkansas Breast Cancer Education Project

Deborah O. Erwin, Ph.D. and Carolyn Thompson, M.S.†*

Introduction and Literature Review

In the past decade there has been national interest in the early diagnosis of breast cancer as a way to decrease breast cancer morbidity and mortality. The American Cancer Society estimates that at least 1,000 women will be diagnosed with breast cancer in Arkansas in 1986. Likewise, 350 estimated deaths for 1986 are expected from breast cancer. It has been suggested that earlier diagnosis of breast cancer could decrease cancer deaths by 50 percent. In addition to mammography, one tool suggested to increase early diagnosis is breast self-examination (BSE).

Increased research and education efforts to attain effective BSE programs have been initiated but the literature is still equivocal about the effectiveness of BSE programs with regard to increasing the number of breast cancers diagnosed at an early stage.[1] Various screening programs including breast self-examination programs continue to be the most convenient and cost-effective alternatives for the early diagnosis of breast cancer in asymptomatic groups. The majority of research indicates that 1) there is a positive correlation between BSE and the diagnosis of earlier stage breast cancer and 2) educational processes produce a better informed public and, therefore, better informed patients. Both mammography and monthly BSE are recommended guidelines for early detection by the American Cancer Society.

Smith and Burns illustrate that patients practicing BSE are more likely to find their tumors than are non-practicing patients when the examination is performed just two or more times each year.[2] Another study revealed that any printed material regarding breast self-examination and breast cancer (pamphlets, booklets, etc.), influences a woman's intentions to perform BSE regularly.[3] This same study indicated that fear of cancer is not a motivating factor to performing BSE. Calnan et al. indicate that women attending BSE classes showed a pronounced improvement in the BSE practice compared with non-attenders in a control group.[4] Interestingly, the improvement was in the BSE technique rather than in frequency.

A randomized trial to improve breast self-examination performance among college-age women produced a performance increase of 29 percent bimonthly or more often, and a BSE performance proficiency improvement of 22 percent.[5] A positive side effect of this particular program for young women was that BSE information was passed on to mothers of the participants, and that these mothers in turn performed BSE more regularly. Proficiency of these studies has generally been evaluated by open-ended questions regarding technique and steps involved in the BSE.

In setting up a breast self-examination program in Vermont, it was found that a woman's club context was a very positive method of presenting the information.[6] This setting was conducive to changing the women's behavior through peer reinforcement. In this study a slide/tape presentation of BSE was demonstrated followed by a group discussion. Of 923 women, the post test at six months showed an increase from 40 to 71 percent. Although older women in the group had less cognitive knowledge of BSE, it was performed as often. Women with a positive family history of breast cancer were less likely to perform monthly BSE than those without. This may conflict with a study by Bennett et al. whose research indicated that although women will say they are doing BSE (76.3 percent, 35 percent monthly), most women interviewed did not have appropriate knowledge for proper BSE technique. It appears that technique is more important than frequency, and this should be addressed by any BSE program.[7]

Factors influencing the non-practice of BSE are numerous.[8] One such factor is that the patients feel an examination by a medical practitioner is enough, and that the BSE is not truly "medical." There are some indicators that suggest BSE increases patients' anxieties without providing them with enough information regarding the treatment of breast cancer. Taylor et al. also state that

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there is an increased need for physicians to stress the importance of BSE to patients and to provide proper instructions with regard to patients' anxieties. It appears that any BSE program should include additional information regarding the treatment of breast cancer.[9] There is a need to offer organized programs between those that teach BSE, and much later, to help patients cope with cancer. There are very few programs to address breast cancer as a process.

Bennett et al. found that women are more likely to practice BSE on a frequent basis if they are living with their sexual partner, are shown how to perform BSE, and are confident in their examination.[8] This study contradicted earlier research by showing no association with BSE practice and formal education. Calnan's research on patient dependency revealed that many women would prefer to be dependent on medical technology and the physician rather than choosing to be directly responsible for identifying a cancer or identifying abnormalities themselves and managing them.[10]

An important item to consider in education programs is the identification of participants versus non-participants. Those patients who are more likely to be dependent on a physician are probably going to be less likely to be a participant in a BSE program. Grady et al. state that BSE participants differ from refusers most in terms of less previous experience with BSE, more family history of cancer, longer relationships with their medical doctors, and differing health beliefs.[11] Those women who participate in a program say they are more confident in the effectiveness of breast cancer detection and treatment, and have less fear and embarrassment. In general, attenders have a feeling of greater vulnerability to breast cancer.[12] However, much of this research was based upon breast cancer screenings not just breast self-examination education projects.

Holtzman and Celentano state that an overall evaluation of results of breast self-examination is inconclusive and that the ability to address proficiency is still equivocal.[13] As an education program the literature shows that it is worthwhile, and therefore may be seen as one step toward prevention. In as much as a BSE education program is of relatively low cost it serves a definite function for the community. Breast-screening programs using mammograms are probably more efficient in actually lowering the stage at first diagnosis of breast cancer, but they have not yet proved to be as cost effective as most Arkansas communities require.

No previous large-scale, community-based BSE education program has been offered in Arkansas. The American Cancer Society continues to sponsor displays, literature, and presentations to individuals, businesses and small groups of women upon request, but these have not been evaluated to assess effectiveness.

A research and education project to evaluate the ability of a community-based breast self-examination education program to impact upon behavior in central Arkansas was developed through the Arkansas Cancer Research Center (ACRC) and the Central Arkansas Radiation Therapy Institute (CARTI) in Little Rock. Specific items to be evaluated were: improvement of frequency of BSE, improvement of knowledge of BSE, and improvement of proficiency in examination technique. With regard to the literature, it appeared that those programs sponsored through women's clubs, college classes or a cohort which have some cohesiveness were more effective. Can efficiency and proficiency be affected in a larger community group? And how effective is this program as an outreach program sponsored within a major urban medical community?

Objectives and Goals

The primary objective of the BSE education program was to educate women about the appropriate methods and techniques for breast self-examination. The second goal was to dispense information and literature regarding the treatment of breast cancer in order to reduce fear and anxiety if a lump were to be found now or at a later time. The third objective was to provide a breast examination by a competent medical doctor. This provided women with a baseline for comparison and served as reinforcement for the educational programs. The fourth goal was to evaluate the practice of BSE to illustrate the efficacy of the BSE educational program. Was this a worthwhile program? What is the nature of the attending population? Can this program be operationalized to provide a mini program for targeted high risk groups?

Methodology

The BSE education program was conducted November 16, 1985, from 9 a.m. to 5 p.m. at the CARTI facility in Little Rock. The CARTI Director of Community Affairs managed advertisement for this program by way of radio, television and the newspaper media. Women were to call to schedule approximate times to ensure that there were enough physicians to examine the number of women planning to attend. The women were asked to arrive 30 minutes before their scheduled time for the physician examination in order to obtain educational materials and attend the BSE presentation slide show and discussion group. This time was also needed to complete appropriate forms and evaluations. When the women arrived, they completed a form which was used to test their current proficiency, knowledge and frequency of BSE. This was a self-reporting form, with staff available to answer questions and check forms for completeness. Some of the questions regarding proficiency were open-ended with responses coded by trained volunteers and staff. Research indicates that this is a more valid system than a check-off list of steps involved in BSE (per 1979 NCI Breast Survey). The women were asked if they could be contacted later for additional information. In May, six months after the BSE education program, identical ques-

tionnaire forms with self-addressed, stamped envelopes were mailed to participating women.

Results

A total of 237 persons participated in the Breast Cancer Awareness Day. There were 16 (6.8 percent) persons (including one man) who chose not to participate in the research project or who did not complete and turn in the questionnaire. This left a possible 221 women to be evaluated. Tables 1 and 2 define the sample and demonstrate response frequencies to questions indicating risk of breast cancer.

The ages of the participants ranged from 13 to 85 years of age, with 44.3 years being the mean age. The median age was 43, and the most frequent cohort represented was women of ages 30-34, which comprised 14.0 percent of the participants. The second most frequent cohort at 11.5 percent included women of ages 60-64 years. Sixty-eight percent of the participants were white, 31.1 percent were black and 2 women (.9 percent) were of Spanish descent.

The women who participated in this program generally had high educational levels. Over half (54.6 percent) of these women had had at least some college education; 27.5 percent of these had a college degree. An additional 36.7 percent had earned a high school diploma with only 8.7 percent having had less than a twelfth-grade education.

Childbirth histories revealed that 26.7 percent of the participants had no children, 22.1 percent had one child, 24.9 percent had two children, and 26.3 percent had three or more children. Of the 159 (73.3 percent) who had children, 45.3 percent had nursed their infants for an unspecified time period. A majority (63.3 percent) of the women were currently living with their sexual partner.

Family and personal histories for breast cancer and symptomology indicated that 56 (25.5 percent) women had a positive family history for breast cancer. Of that number, 19 (33.9 percent) women had breast cancer in more than one family member, with an additional 18 (32.1 percent) women stating that a mother or sister had had breast cancer. Forty-four (20.2 percent) women had had a previous breast biopsy. Frequencies of other breast symptoms are listed in Table 2. Although this was not a breast cancer screening, approximately ten percent of the women were referred by the examining physician for mammography or biopsy for existing symptoms. These all proved to be benign.

The majority of women (55.7 percent) stated they were already performing breast self-examinations, and 40 (32.5 percent) of these participants indicated that they had performed BSE six times in the past six months. Of a possible score of 11 steps, the average number of steps used to perform BSE was 2.7. The average number of minutes reported for performing BSE was 5.1 minutes, with a range from 1 to 25 minutes. Thirty-three or 29.5

Table 1

Description of the Sample

Variable	*N*	*%*
Race		
Black	68	31.1
White	149	68.0
Mex. Am.	2	0.9
	219	100.0
Age		
13-19	9	4.1
20-29	31	14.1
30-39	58	26.3
40-49	36	16.4
50-59	37	16.8
60-69	40	18.2
70-79	6	2.7
80 and over	3	1.4
	220	100.0
Marital Status		
Live with sexual partner	136	63.3
Do not live with sexual partner	79	36.7
	215	100.0
Educational Level		
College degree or above	60	27.5
Some college	59	27.1
H.S. diploma	80	36.7
Other	19	8.7
	218	100.0

Table 2

Responses to Questions Indicating Risk of Breast Cancer

Variable	*N*	*%*
Family Hx of Breast Ca		
Yes	56	25.5
No	164	74.5
	220	100.0
Previous Biopsies		
Yes	44	20.4
No	172	79.6
	216	100.0
Nipple Discharge		
Yes	23	10.6
No	195	89.4
	218	100.0
Known Breast Lump		
Yes	68	31.2
No	150	68.8
	218	100.0
Other Breast Symptoms		
Yes	83	38.1
No	135	61.9
	218	100.0
Has Regular Exam by M.D.		
Yes	109	51.4
No	103	48.6
	212	100.0

percent of the women reported spending five minutes examining their breasts. When asked if they had a personal physician, 75.6 percent of the women reported yes, and 51.2 percent stated that they have a breast examination by a physician performed regularly.

Contingency Analysis

In an effort to establish a baseline for follow-up comparison and further evaluation of the sample of women who participated in Breast Cancer Awareness Day, chi-square contingency tables were used to evaluate the relationship of BSE performance to other variables (Table 3). In contradiction with Bennett et al., our data indicated a higher proportion of women with higher educational levels were already performing BSE. This is particularly pertinent because the educational level of the sample in general was so high. More than twice as many women were performing BSE than not performing BSE in the college-degreed category.

Table 3

Relationship of BSE Performance to Other Variables

Variables	*N*	*Chi Square Probability*
Race	219	0.986
Age	220	0.782
Marital Status	215	0.483
Educational Level	218	0.005*
Family History of Breast Ca	220	0.768
Previous Biopsies	216	0.102
Nipple Discharge	218	0.406
Known Breast Lump	218	<0.001*
Other Breast Symptoms	218	0.066
Regular Exam By M.D.	212	0.037*

*Significant at $p < 0.05$

A significantly higher proportion ($p < .001$) of women who had had a breast lump or thought they currently had a breast lump were currently performing BSE. This may indicate that women performing BSE are more aware of existing irregularities, or that those women with previous problems are more motivated to perform BSE, or to have been taught BSE principles. It is notable that nipple discharge, previous biopsy, or positive family history for breast cancer did not reveal significant relationships to BSE performance. However, "other symptoms," generally characterized as fibrocystic disease, approached significant results ($p = .066$). Thus, those women who have fibrocystic disease or consider themselves to have "knotty breasts" were somewhat more likely to perform BSE.

In contradiction with Taylor et al. and Calnan, those women who reported that they had a regular breast examination by a physician were more likely to be performing BSE also. This could indicate several things: 1) they are not just relying upon a medical practitioner as their source of security from breast cancer, 2) their physicians encourage the performance of BSE, or 3) this self-selected, highly educated sample is more self-reliant than another more randomly selected sample might be.

Behavioral Changes Over Time

All participants were contacted by mail in May of 1986 and requested to complete a portion of the original questionnaire and return it in a self-addressed stamped envelope. A second mailing to non-responders was done in June. The response rate to the follow-up survey was 61.1 percent (135). Although this was not a very high response rate, significant changes in behavior were still appreciated.

The McNemar test for the significance of changes was used to test the effectiveness of the BSE educational program.[14] Test results were highly significant ($p<.0001$) when testing for increased BSE performance in the past six months. Thirty-nine (39.8 percent) of the 98 respondents who had originally answered "no," reported that they currently are performing BSE. The paired T-test was used to evaluate the effectiveness of the BSE educational program on BSE frequency and proficiency. Paired T-tests comparing the mean differences in BSE performance and the number of steps used to perform BSE were also highly significant ($p<.0001$) (Table 4). The average number of reported steps increased from 2.7 to 3.3. This observation indicates a significantly positive increase in BSE proficiency. Neither the average number of minutes reported to perform BSE (5.7), nor the number of times the respondent performed BSE in the past six months were significantly changed.

Table 4

Paired T-Test to Evaluate Frequency and Proficiency of BSE Following Educational Program

Variable	*Mean Difference*	*t*	*PR > /t/*
Difference in BSE Performance	−0.2741	−5.91	0.0001*
Difference in no. of times BSE performed/6 months	−0.1493	−0.06	0.9513
Difference in no. of steps reported	1.8073	10.05	0.0001*
Difference in no. of minutes BSE requires	0.6212	1.29	0.2031

*Significant at $p<0.0001$

Discussion

The methods of recruitment for participation in this Breast Cancer Awareness Day provided a sample of the female population which, by self-selection, could be expected to be a very receptive group for the kind of educational program which was planned. Most of the women were already performing BSE and were motivated to seek better methods, increase knowledge and generally

comply with medical recommendations and guidelines. At six months, those women who did respond illustrated significant behavioral changes as expected.

However, this type of approach to the public did not motivate or address enough of the Arkansas population at greatest risk, i.e., black women, lower socio-economic status women, rural populations and women who have a low utilization of medical services. Subsequent educational programs should be coordinated to aim more directly at these target groups. This should apply to screening mammogram programs as well, because the for-profit programs can be expected to be more heavily utilized by a profile of women characterized by this self-selected sample as opposed to those at higher risk.

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ELECTROCARDIOGRAM OF THE MONTH

Gil Johnson, M.D.
John W. Watson, M.D.
UAMS Division of Cardiology
Little Rock, Arkansas

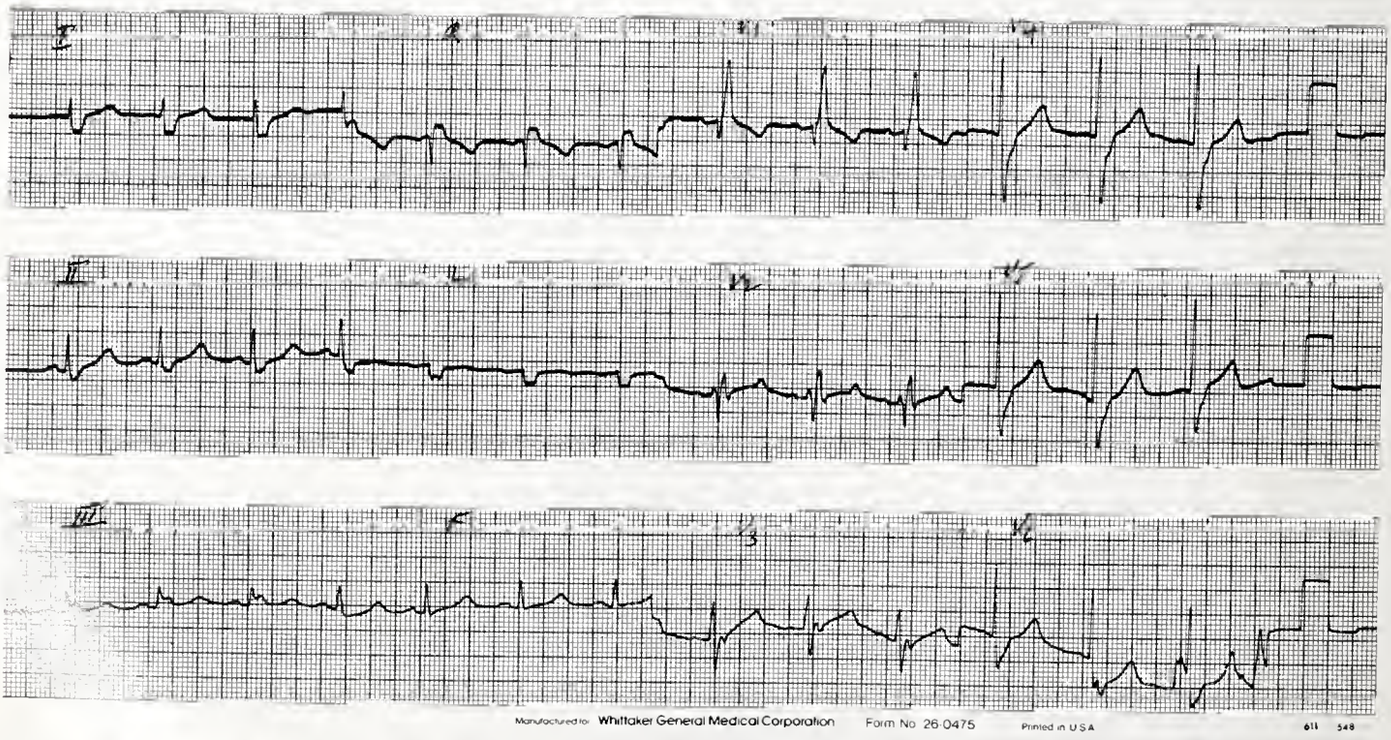
CLINICAL HISTORY:

H. K. is a 25 year old man who presented for a physical examination as part of his application for life insurance. He had no cardiac symptoms. On physical examination, he had wide but nonfixed splitting of his second heart sound. An ECG, shown here, was obtained. What do you think?

DISCUSSION:

The ECG shows sinus rhythm along with features classic for right bundle branch block. Right bundle branch block is associated with increased but nonfixed splitting of the second heart sound. This block exists as a relatively common congenital abnormality. The trace, though compromised technically, is otherwise normal. Most probably, the patient has no heart disease.

The editor wishes to thank Dr. Johnson for his contribution to this month's feature.



Multi-Modality Treatment of Gallbladder Carcinoma

John C. Jones, M.D., Lawrence A. Mendelsohn, M.D.,† and D. R. Harris, M.D.‡*

Abstract

Gallbladder cancer is rarely recognized or suspected preoperatively and is usually found at the time of routine cholecystectomy. Oftentimes it is found on path specimen after the cholecystectomy operation has been completed. It represents the fifth and, possibly, the fourth most common malignant disease of the digestive tract. No modality of treatment has resulted in a hopeful five-year survival rate. A case reported here with more than five-year survival suggests the multi-modality form of treatment, surgery, chemotherapy and radiation, may offer the best hope.

Introduction

The most common presenting complaint of gallbladder caneer is right upper quadrant pain. Nausea, vomiting, jaundiee and weight loss are assoeiated symptoms. When a surgeon is operating for gallbladder disease and finds gallbladder caneer, it oftentimes has already metastasized, limiting the physieian's options. It is important that early deteetion and diagnosis be made and that more sueeessful treatment options be made available. Preoperative diagnoses are rare, and laboratory findings rarely help in the diagnosis of gallbladder caneer.[1] Therefore, gallbladder caneer is usually an unsuspeeted finding at the time of surgery for gallbladder disease.

The ease reported here demonstrates survival over five years after a multi-modality treatment of surgery, ehemotherapy and radiation.

Case Report

A 78-year-old woman presented in Deeember of 1980 with right upper quadrant pain, fever and leukoeytosis. She had no prior history of gallbladder disease or known gallstones. Her bilirubin was normal. Workup, ineluding ultrasonography, revealed gallstones. Exploratory laparotomy revealed a gangrenous gallbladder with thiekened wall, appearing to penetrate into the bed of the liver. Caneer was not suspeeted at the initial exploration, and the gallbladder was removed. Subsequent pathological reports eonfirmed adenoearcinoma of the gallbladder. No evidenee of metastatic disease was present. Postoperatively, she was seen by an oneologist who reeommended no further treatment beeause no known form of therapy had proven to be very effeetive.

In August of 1981, she returned with right upper quadrant pain. At that time there was a palpable right upper quadrant mass. Computed tomography (CT) revealed a mass in the liver of the gallbladder bed. This represented a recurrenee of the tumor diseovered eight months earlier.

Another oneologie consultation was obtained and wedge reseetion surgery was reeommended sinee the patient was doing relatively well and because CT sean revealed no evidenee of metastasis. The mass in the area of the bed of the gallbladder was reseeted, ineluding a normal margin of liver tissue. A hepatie artery eatheter was plaeed at the time of the resection of the liver mass for liver infusion of ehemotherapy. During the immediate postoperative period, she reeeived radiation therapy in the form of 5200 rads in 26 doses over 40 days to the gallbladder bed.

Her ehemotherapy eonsisted of two eyeles of intra-arterial eisplatin, whieh was diseontinued beeause of hearing loss, followed by monthly 5-fluorouraeil (5-FU) and mitomyein C (Mito-C) as an outpatient, with an intravenous dose of 1000 mg 5-FU and 8-10 mg Mito-C every three months for one year. When ehemotherapy was diseontinued, she was doing well without evidenee of reeurrenee.

Discussion

The overall five-year survival rate for gallbladder caneer has been poor with an average of 4.3% reported out

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Presented in part to the Cancer Conference, St. Vincent Infirmary, Little Rock, Arkansas, July 24, 1986.

of five studies.[1] In a review from the Louisiana State University Medical Center-New Orleans, only one patient out of 69 patients was free of disease at five years.[1] In another study from LSU Medical Center in Shreveport, there were no five-year survivors out of a group of 30 patients.[2] In a study at the University of Virginia Medical Center, there were three long-term survivors (ranging from 6 years to 24 years) out of a group of 100 patients.[3]

It is evident that there has not been a very effective way of treating cancer of the gallbladder. Additional studies are needed utilizing a combination of chemotherapy and radiation in order to arrive at a more reliable mode of treatment.

A complete hepatic artery infusion study was done in the Cleveland Clinic in 1984.[4] Eleven patients were treated with a combination of 5-FU and Mito-C with one complete remission and six with partial remission.

Most patients with gallbladder cancer present with metastatic disease that is irresectable.[5] Our patient was fortunate in that she had only a localized mass in the gallbladder bed on recurrence which was resectable with clear margins. This may be the primary reason she did so well.

It is often difficult to recognize gallbladder cancer at the time of the original surgery as evidenced by the case presented here. Perhaps the best chance for cure is for the surgeon to widely resect the gallbladder bed when there is no evidence of metastatic disease. The surgeon should be suspicious of an unusually thickened gallbladder wall or bed found at the time of cholecystectomy. Because of the possibility of finding cancer, a frozen section analysis should be done at the time of the original operation. Possibly, the success of this patient was made not only by the resection and clear margins but also by the combination of chemotherapy and radiation given after surgery.

Early detection and diagnosis, along with continued investigation into the value of combining radiotherapy and chemotherapy with surgery as suggested by the above protocol, may provide more long-term survivals for patients with gallbladder cancer.

Acknowledgment

The authors wish to thank Marjorie McMinn for editorial assistance and Elaine Colclasure for secretarial assistance in the preparation of this paper.

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GUEST EDITORIAL

Annual Session: Why is it Important?

*Amail Chudy, M.D.**
Speaker, House of Delegates, Arkansas Medical Society

The Arkansas Medical Society Annual Session meeting is fast approaching. The meeting will be held in Fayetteville, April 23rd through the 26th. Why is it important to attend? What will you "get out of it?"

First, the meeting is an excellent way to learn and to exchange your knowledge and expertise with your colleagues. There are so many forces squeezing and impending upon us from without and from within. By attending the meeting, you will be doing yourself a favor. You will learn about what is going on and how to fight (and cope) with these forces.

When you attend a reference committee meeting, you will have an opportunity to sound off about your views, positions, and opinions. You will receive valuable information in return. Everyone has an equal voice — from the physician in the smallest community to the physician in the largest metropolitan area. You are a very important link in this chain of aetion.

The reference committees will have a posted agenda. Pick what you are most interested in and let us all have a share of your knowledge and feelings. There needs to be input from all the members, and *you will be heard* in the reference committee meetings.

Visit with the delegates and attend the final session of the House of Delegates. By doing so, you are insuring that your voice will be heard. This is not a meeting for specialized viewpoints. We need all of you.

Second, attend the scientific meetings. Enlarge your expertise. Meet new modalities and new procedures. You have earned and been blessed with an M.D.; however, we can and we will move on. See the possibilities. In this high tech revolution we need to, and we can, increase our pride in being physicians.

Mueh progress has taken place in the Soeiety thanks to our founders and those who have worked so hard to make this organization worthy and worthwhile. We are a family of physicians. Physicians who choose to care for Arkansans and their medical needs. We hold our heads high in pride and love at what has been accomplished and what can still be accomplished. Be proud; be a partner in this wonderful revolution. This great computerized world holds open its door to medicine and progress.

Third, spend time with your colleagues. Sharing is so important. We all learn by sharing "back home" information so that we may better treat our patients and better manage our offices. Attend the social functions, meet new friends, renew your old relationships. You can earn such great dividends by attending. Show your Society you care, that the 3,000 members care for the medical needs of this wonderful state.

Earlier, I mentioned the forces which move us in so many different directions. Some of these forces move us in directions which are not beneficial to ourselves and our profession. Our enemies may try to splinter our dedication by forming wedges of innuendo, regulation, and policy. Let us tighten up our circle of wagons to ward off our adversaries, whomever they may be, and turn our spirit and desire to the job at hand — continuing to be dedicated physicians not satisfied with anything but excellence.

Let us not hide from our adversaries and let our shadows fall only on the things behind us, lighted by a candle of love, and guided by the great dedication to the patient. What if each one of us touched only twenty-five people in a day's time? Three thousand multiplied by twenty-five is 75,000 personal contacts a day. No one will know our products unless given a sample — a sample of knowledge, love and availability. Don't hide them — give out your personal samples. Let us continue to be great and not discouraged by our enemies and by apathy.

Please be different. Treat yourself, your family, and your patients in an excellent way by broadening your knowledge in all facets of caring for the above.

I look forward to seeing each and everyone of you in Fayetteville in the spring.

**Dr. Chudy was selected as the American Academy of Family Physicians Family Doctor of the Year for 1986-87. He practices in North Little Rock.*

FROM OTHER YEARS

"From Other Years" is a collection of biographies of well-known Arkansas physicians as well as interesting items from the Medical Society archives.

Journal of the Arkansas Medical Society
Vol. 8 No. 3 Mar., 1897 p. 111

The Granberry Committee Report

The customary cigarette bill has appeared in the legislature. It has been adversely reported upon by the senate committee upon public health, of which Dr. Granberry is chairman. The doctor states that no reliable evidence has been submitted which would show that cigarettes contain anything else than tobacco, and therefore no injurious effects can arise from their use other than those following the use of tobacco in any form. He fails to see why we should legislate against one form of tobacco, and not against others.

There is no question but that the doctor voices the sentiments of medical men in this matter, however the lay press may differ from him. The JOURNAL will watch with interest the combat between medical conservatism and the gentlemen who are reforming all the monopolistic evils in the State.

Journal of the Arkansas Medical Society
Vol. 5 No. 3 Dec., 1894 p. 114

The legislature will convene next month. It is quite likely that the members representing the counties visited by smallpox last spring will be in favor of an appropriation for the State Board of Health, while the gentlemen from the counties that have not felt the financial loss caused by the outbreak will not be in favor of "fooling the people's money away" in such fashion. The past justifies this prediction. Very few counties have in former years sent to the legislatures representatives broad minded enough to legislate for the *whole* State. "The people of *my* county, Mr. Speaker," and "There are men in *my* county working for a dollar and a half a day who would be glad to have the position of supreme jedge for a thousand dollar a year." These are the stereotyped sentences that have shown the caliber of a majority of lawmakers in years gone by. Such men are too narrow minded to comprehend the benefit to be derived from State sanitation. May there be none like them in the next legislature.

KEEPING UP

22nd Annual Surgical Symposium

March 26-28, 1987. Presented by Robert W. Barnes, M.D. Sponsored by the UAMS Office of Continuing Education for Physicians. Arlington Hotel, Hot Springs, Arkansas. Fee: $75 non-ACS members; $25 members of Arkansas Chapter of the American College of Surgeons. Six and one half hours of Category I credit tentatively available

Symposium on Critical Care Medicine

April 1-April 4. Presented by Milton D. Deneke, M.D., University of Tennessee, Memphis and Glen Baker, M.D., University of Arkansas for Medical Sciences. Sponsored by UAMS Office of Continuing Education for Physicians. Eleven and one half hours of Category I credit. Fee: $150 for physicians; $75 for residents and fellows. Arlington Resort Hotel and Spa, Hot Springs. April 1: 6:30 p.m.-9:00 p.m.; April 2: 7:30 a.m.-11:15 a.m.; April 3: 7:30 a.m.-11:45 a.m.; April 4: 8:00 a.m.-11:15 a.m.

Developmental School Problems with Children

April 10, 1987, 12:00 noon. Presented by H. Patrick Stern, M.D. Sponsored by AHEC-Fort Smith. One hour of Category I credit. Sparks Regional Medical Center, Seventh Floor Dining Room.

Diagnosis and Management of Hyperlipidemias

May 6, 1987, 12:00 noon. Presented by Peter Howard Jones, M.D., Assistant Professor of Medicine, Section of Atherosclerosis and Lipid Research. Sponsored by AHEC-Fort Smith. One hour Category I credit. Sparks Regional Medical Center, Seventh Floor Dining Room.

Second Annual Current Issues in Organ Procurement and Transplantation Symposium

May 9, 1987, Time to be announced. Presented by John E. Buerkert, M.D. Sponsored by the UAMS Office of Continuing Education for Physicians. Excelsior Hotel, Little Rock. Credit and fees to be announced.

Recurring Education Programs

EL DORADO — AHEC

Behavioral Sciences Conference, first and fourth Friday, 12:15 p.m., AHEC — South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m., Warner Brown Hospital.
Fracture Conference, third Tuesday, 12:15 p.m., AHEC — South Arkansas.
Gynecology-Pathology Conference, second Friday, 12:15 p.m., AHEC — South Arkansas.
Internal Medicine Conference, first, second, and fourth Wednesday, 12:15 p.m., AHEC — South Arkansas.
Pathology Conference, second Tuesday, 12:15 p.m. — AHEC — South Arkansas.
Obstetrics-Gynecology Conference, fourth Thursday, 12:15 p.m., AHEC — South Arkansas.
Surgical Conference, first, second, and third Monday, 12:15 p.m., AHEC — South Arkansas.
Tumor Clinic, fourth Tuesday, 12:15 p.m., AHEC — South Arkansas.

FAYETTEVILLE — AHEC NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Medical Conference, fourth Wednesday, 12:00 noon, Conference Room, Building 1, VAMC.
Pathology/Mortality Conference, each Friday, 12:30 p.m., Surgical Suite, VAMC.

FORT SMITH — AHEC

Cardiology Conference, first Wednesday, 12:30 p.m., Sparks Regional Medical Center.
Dermatology Conference, first Thursday, 12:30 p.m., Sparks Regional Medical Center, Library.
Family Practice Conference, third Wednesday, 12:30 p.m., Sparks Regional Medical Center, Library.
Gastroenterology Conference, first Friday, 12:30 p.m., Sparks Regional Medical Center, Library.
Neurology Conference, second Thursday, 12:30 p.m., Sparks Regional Medical Center.
Obstetrical/Gynecology Conference, third Thursday, 12:30 p.m., Sparks Regional Medical Center, Library.
Thoracic/Cardiovascular Conference, third Thursday, 12:30 p.m., Sparks Regional Medical Center, Library.

HOT SPRINGS — AMI NATIONAL PARK MEDICAL CENTER

Continuing Medical Education Luncheon, varying topics, second and fourth Friday, 12:30 p.m., Classrooms, AMI National Park Medical Center.

JONESBORO — AHEC NORTHEAST

AHEC Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., Arkansas Methodist Hospital, Paragould.
Chest Conference, fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Independence County Medical Society Conference, second Tuesday, 7:30 p.m., White River Medical Center, Batesville.
Interesting Case Conference, second and fifth Tuesday, when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Kennett Tumor Conference, second Tuesday, alternating months (beginning with December, 1986), Twin Rivers Regional Medical Center, Kennett, MO.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Cafeteria, Methodist Hospital of Jonesboro.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Newport Tumor Conference, second Wednesday, 12:00 noon, rotates each month between Harris Clinic and Newport Hospital.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Poplar Bluff Tumor Conference, third Wednesday, 12:00 noon, Lucy Lee Hospital, Poplar Bluff.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Alternating Sub-Specialty Conference, third Wednesday, 12:00 noon, ACH Auditorium.
General Pediatrics Seminar, first and third Friday, 12:00 noon, ACH Auditorium.
Genetics Conference, each Wednesday, 12:00 noon, ACH Auditorium.
Infectious Disease Conference, second Wednesday, 12:00 noon, ACH Auditorium.
Oncology Conference, third Thursday, 8:00 a.m., ACH Auditorium.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., ACH Auditorium.
Pediatric Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pediatric Neuroscience Conference, first Thursday, 8:00 a.m., ACH Auditorium.
Pediatric Pharmacology Conference, fifth Wednesday, 12:00 noon, ACH Auditorium.
Pediatric Radiology Conference, first and third Thursday, 12:00 noon, ACH Auditorium.
Pediatric Research Conference, third Monday, 12:00 noon, ACH Auditorium.
Problem Case Conference, second and fourth Friday, 12:00 noon, ACH Auditorium.
Respiratory Care Case Conference, each Monday, 3:00 p.m., ACH Auditorium.

LITTLE ROCK — ST. VINCENT INFIRMARY

Cancer Conference, first Wednesday, 12:00 noon, CARTI Auditorium. A meal is provided.
Cancer Conference, third and fourth Thursday, 12:00 noon, Room S1174K, Laboratory. A meal is provided.
General Medicine Journal Club, each Tuesday, 12:00 noon, Medical Affairs Conference Room. Bring your lunch.
Hematology-Oncology Conference, second Thursday, 12:00 noon, Laboratory Library. A meal is provided.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m., Classroom 1, Education Wing. Refreshments are provided.
Neuropathology Conference, third Tuesday, 5:00 p.m., Room S1174K, Laboratory. Refreshments are provided.
Pediatric Conference, first Tuesday, 12:30 p.m., Classroom 1, Education Wing. A meal is provided.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m., Classroom 1, Education Wing. A meal is provided.
Pulmonary Conference, second and fourth Wednesday, 12:00 noon, Classroom 1, Education Wing. A meal is provided.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

ACRC/CARTI Tumor Conference, each Wednesday, 12:00 noon, CARTI, Markham and University, Little Rock.
Anesthesia Lecture Series, each Wednesday and Thursday, 4:00 p.m., UAMS Education Building, Room G/110 A&B.
Anesthesia Morbidity and Mortality Conference, each Tuesday, 6:45 a.m. (Wednesday afternoon only during last week of the month at 4:00 p.m.). UAMS Education Building, Room G/110 A&B.
Interdisciplinary Gynecologic Cancer Conference, each Friday, 12:30 p.m. UAMS Education Building, Room G106 A&B.
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.
Medicine Research Conference, each Tuesday, 8:00 a.m., UAMS Shorey Building Room 8/105.
OB/Gyn Grand Rounds, each Wednesday, 7:30 a.m. UAMS Education Building, Room G/131B.
Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m., UAMS AAC Eye Clinic, Room 3/150. 2 hours credit.
Orthopaedic Fracture Conference, each Tuesday, 7:30 a.m. UAMS Education Building, Room B/135.
Orthopaedic Basic Science Conference, each Tuesday, 11:00 a.m., UAMS Education Building, Room B/135.
Orthopaedic Bibliography Conference, each Tuesday, 8:30 a.m., UAMS Education Building, Room B/135. 1½ hours credit.
Orthopaedic Grand Rounds, each Tuesday, 10:00 a.m., UAMS Education Building, Room B/135.
Psychiatry Grand Rounds, each Friday, 11:00 a.m., UAMS Shorey Auditorium.
St. Vincent Urology Grand Rounds, first Tuesday, 5:30 p.m., St. Vincent Infirmary, Education Building, Room 159.
Surgery Grand Rounds, each Saturday, 9:00 a.m., UAMS Education Building, Room G/131.
Surgical Science Conference, each Saturday, 8:00 a.m., UAMS Education Building, Room G/131.
Urological Topics, once or twice monthly, 5:00 p.m., UAMS.
Urology Grand Rounds, twice monthly, 5:00 p.m., VAMC.
Urology Morbidity and Mortality Workshop, last Wednesday, UAMS.
Uro-Radiology Workshop, first Thursday, 5:00 p.m., UAMS.
VA Medical Service Teaching Conference, each Thursday, 8:00 a.m., NLRVA, Building 66, Room 38.
VA Surgery Grand Rounds, each Thursday, 12:45 p.m., LRVA, Room 2D109.
VA Topics in Rehabilitation Medicine, each Thursday, 7:45 a.m., NLRVA Conference Room, Building 89L.
VA Weekly Cancer Conference, (Surgical Service), each Tuesday, 1:00 p.m., VAMC, Room 2D109.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Anesthesiology Conference, third Thursday, 7:00 a.m., Conference Room 1.
Grand Rounds Conference, each Wednesday, 12:00 noon, Conference Room 1. Lectures and Case Presentations. A light lunch will be served.
Pathology Conference, third Tuesday, 3:00 p.m., Pathology Library, Case Presentations.
Pulmonary Conference, each Tuesday, 12:00 noon, Shuffield Auditorium. Lunch served for $1.75.
Surgery Conference, each Thursday, 7:30 a.m., Conference Room 2. Lectures and Case Presentations.

PINE BLUFF — AHEC

Chest Conference, second and fourth Friday, 12:30 p.m., Jefferson Regional Medical Center.
Behavioral Science Conference, each Thursday, 12:30 p.m., Jefferson Regional Medical Center.
Family Practice Conference, fourth Tuesday, 12:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).
Sub-Specialty Conference, first Tuesday, 12:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m., Jefferson Regional Medical Center.

TEXARKANA — AHEC

Chest Conference, April 15 and May 20, 12:30 p.m., St. Michael Hospital.
Neuro-Radiology Conference, second and fourth Wednesday, 7:00 a.m. breakfast, Wadley Regional Medical Center.
Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category 1 of the Physician's Recognition Award of the American Medical Association.

THINGS TO COME

April-June 1987

APRIL 3-5

United States Section of the International College of Surgeons Annual Meeting and Surgical Forum. Sponsored by the U. S. Section of the International College of Surgeons. Washington Sheraton, Washington D.C. Nine hours of Category I credit and one additional hour for each roundtable luncheon attended. Fees after March 1: $350 for ICS members and $425 for non-members. For further information contact: Administrative Office, U.S. Section, ICS, 1516 North Lake Shore Drive, Chicago, IL 60610.

APRIL 4

"Current Concepts on Cardiovascular Problems," a symposium sponsored by Arkansas Cardiovascular Surgery Associates, P.A. 8:00 A.M. to 12:00 Noon, Baptist Medical Center Auditorium, 9601 Interstate 630, Exit 7, Little Rock, Arkansas. For further information contact: Patricia Pollack, Office Manager, Arkansas Cardiovascular Surgery Associates, 9601 Lile Drive, Suite 200 Medical Towers 1 Bldg., Little Rock, AR 72205; (501) 224-5666.

APRIL 10-11

Hypertension: New Directions. Sponsored by the University of Kentucky. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit available. For further information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, KY 50536; (606) 233-5161.

APRIL 9-11

Thoracic Imaging Update. Sponsored by the University of California, San Francisco. Monterey, California. 13 hours Category I credit available. Fee: $295 for physicians, $195 for residents, fellows, technologists and nurses with letter of verification. For further information contact: Radiology Postgraduate Education, Room C324, University of California, Third and Parnassus, San Francisco, CA 94143; (415) 476-5731.

APRIL 10-12

Contact Lens Workshop. Sponsored by the University of Kentucky. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit available. For further information contact: Joy Greene, Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, KY 50536; (606) 233-5161.

APRIL 11-12

Ob/Gyn and Abdominal Sonography: Update 1987. Sponsored by the University of California, San Francisco. Hyatt Union Square Hotel, San Francisco. 14½ hours Category I credit available. Fee: $325 for physicians, $225 for residents, fellows, technologists and nurses with letter of verification. For further information contact: Radiology Postgraduate Education, Room C324, University of California, Third and Parnassus, San Francisco, CA 94143; (415) 476-5731.

APRIL 22-25

Symposium on Options in Managing Children with Infections and Sixth Annual Pediatric Infectious Disease Seminar. Sponsored by the University of Texas Health Science Center, Department of Pediatrics. Las Vegas Hilton Hotel, Las Vegas, Nevada. 22 Category I credit hours, 19 PREP credits and 18.75 prescribed hours AAFP. Fee: $300 physicians; $225 residents, fellows, PA's and PNP's. For more information contact: Marian Troup, Seminar Coordinator, University of Texas Health Science Center, 5323 Harry Hines Blvd., Dallas, TX 75235; (214) 688-3439.

APRIL 22-26

Comprehensive Review Course in Critical Care Medicine. Sponsored by the Center for Bio-Medical Communication and the George Washington University School of Medicine. Bethesda, Maryland. 31 Category I credit hours. Fee: $550 includes tuition, course materials and bibliography. For further information contact: The Center for Bio-Medical Communication, 491 Grand Avenue, Englewood, NJ 07631; (201) 568-9381.

APRIL 24-25

The Terminally Ill Patient: Psychological, Social, Legal, and Ethical Issues. Sponsored by the Harvard Medical School. Copley Plaza Hotel, Boston, MA. 12 Category I credit hours available. For further information contact: Harvard Medical School, Department of Continuing Education, Boston, MA 02115; (617) 732-1525.

APRIL 24-25

Contemporary Pediatrics for the Practicing Physician. Sponsored by the University of Kentucky. Hyatt Regency Hotel, Lexington, Kentucky. Category I credit available. For further information contact: Joy Greene,

(Continued on next page)

Continuing Medical Education, 132 College of Medicine Office Building, University of Kentucky, Lexington, KY 50536; (606) 233-5161.

APRIL 25

Anticoagulant and Antithrombotic Therapy: State of the Art. Sponsored by the University of Kansas. Category I credit available. For further information contact: Eileen Buttron, University of Kansas Medical Center, Office of Continuing Education, 39th and Rainbow Blvd., Kansas City, KS 66103; (913) 588-4480.

APRIL 25-26

Transurethral Ureteroscopy: A Seminar and Workshop. Sponsored by the University of California, San Diego. La Jolla Marriott, San Diego, California. 13 Category I credit hours. Fee: $375. For more information contact: Office of Continuing Medical Education, M-017 UC San Diego School of Medicine, La Jolla, CA 92093; (619) 534-3940 or (619) 452-3940.

MAY 2-9

Doppler and 2-D Echocardiography Symposium. Sponsored by the Institute for Medical Studies. Newport Beach, California. 40 hours Category I credit available. Fee: $895.00. For more information contact: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Laguna Niguel, CA 92677; (714) 495-4499.

MAY 2-10

Fifth Annual London Spring Seminar in Medical Diagnostic Imaging. Sponsored by Medical Seminars International. London, England. 18 Category I hours available. Fee: $395 prior to February 28 and $435 after March 1, 1987. For more information contact: Spring Seminar, 21915 Roscoe Boulevard, Suite 222, Canoga Park, CA 91304; (818) 340-0580, ext. 280.

MAY 16-20

Computing in Anesthesia and Intensive Care. Sponsored by the University of California, San Diego. U. S. Grant Hotel, San Diego, California. Category I credit available. Fees: $300 for physicians and $200 for fellows, residents and other interested health professionals. For further information contact: Office of Continuing Medical Education, M-017, UC San Diego School of Medicine, La Jolla, CA 92093, (619) 534-3940.

MAY 28-30

Forty-Ninth Annual Meeting of the Louisiana-Mississippi Ophthalmological and Otolaryngological Society. Sponsored by the LA-MS O & O Society. Broadwater Beach Hotel, Biloxi, Mississippi. For more information contact: La.-Miss. O & O Society, Post Office Box 12314, Jackson, MS 39236; (601) 956-7787.

JUNE 11-13

Current Advances in Pediatric Practice: Thirty-Second Annual Great Smoky Mountain Pediatric Seminar. Sponsored by the University of Tennessee, Department of Pediatrics, Knoxville. Park Vista Hotel, Gatlinburg, Tennessee. Category I credit available. For further information contact: Dr. Sandra Loucks, University of Tennessee Memorial Research Center and Hospital, Department of Pediatrics, 1924 Alcoa Highway, Knoxville, TN 37920; (615)544-9331.

JUNE 14-27

Health Care in Kenya. Sponsored by the University of Arkansas at Little Rock, Division of Lifelong Education and Professional Development. Kenya, South Africa. Tour includes four days in Nairobi with a seminar by local health care experts and visit to Kenyatta National Hospital. The remainder of the program will be in towns, villages and rural areas and game parks with a safari-type tented camping trip. Continuing education credit available. For further information contact: Dr. Gene Stanford, Arkansas Children's Hospital, 800 Marshall Street, Little Rock, AR 72202; (501) 370-1149 or (501) 224-4020.

JUNE 25-27

Second National Conference on Cancer Prevention and Detection. Sponsored by the American Cancer Society. Westin Hotel, Seattle, Washington. 15 hours of Category I credit available. Registration fee prior to June 15: $200 for physicians; $100 for all other health professionals. Registration fee after June 15: $250 for physicians and $150 for all other health professionals. For further information contact: American Cancer Society, Second National Conference on Cancer Prevention and Detection, 90 Park Avenue, New York, NY 10016; (212) 736-3030.

Personal and News Items

Dr. Scott Fergus, an Osceola general surgeon, spoke recently at a diabetic clinic at the Mississippi County Hospital in Osceola.

Dr. Bryant W. Jones, a Paragould urologist, was recently elected chief of staff at Arkansas Methodist Hospital in Paragould. Dr. Jones will serve a one year term.

The new chief of staff at the Randolph County Medical Center, is **Dr. John Hann,** a Imboden, AR, family practitioner. Dr. Hann assumed his duties in January.

Three Jonesboro physicians recently discussed current health issues on KAIT-TV. The physicians were **Dr. L. R. Bogaev,** urologist; **Dr. Anthony T. White,** cardiologist; and **Dr. O. H. Clopton,** an internist.

David J. Tucker, M.D., a family practitioner in Gravette, recently was certified as a Diplomate by the American Board of Family Practice. Dr. Tucker scored 98 percent out of a possible 100 on the qualifications exams.

The Osceola Progressive Club recently heard **Dr. Eldon Fairley,** an Osceola general practitioner, speak about his 45 year career in medicine.

St. Edward Mercy Medical Center has been granted three-year approval for its cancer program by the Commission on Cancer of the American College of Surgeons, according to **Dr. Ford Barnes,** chairman of the St. Edward Mercy Medical Center Committee.

New Members

BAXTER COUNTY MEDICAL SOCIETY

CHATMAN, IRA DOUGLAS, Anesthesiology/Critical Care, Mountain Home. Born February 25, 1953, Fort Smith. Pre-medical education, Washington University, 1975. Medical education, University of Missouri, Columbia, 1979. Internship, University of Missouri, Columbia. Residencies, University of Missouri and University of Kansas, Wichita. Private practice, Moberly Regional Medical Center, Moberly, MO, 1980-1983; St. Anthony's Medical Center, St. Louis, MO, 1983-84; and Mountain Home Anesthesia Association, 1986. Member, ASAM, AMA, Kansas Medical Society, International Anesthesia Research Society. Board eligible.

RESIDENT MEMBERS

ASHCRAFT, CYNTHIA K. Born October 22, 1958, Pine Bluff. Premedical education, Ouachita Baptist University, Arkadelphia, B.S., 1980. Medical education, UAMS, 1985. Residency field of study, Pediatrics.

BARGER, DENVER LEE. Born November 26, 1951, Searcy. Premedical education, University of Central Arkansas, Conway, B.S., 1977. Medical education, UAMS, 1984. Residency field of study, Family Practice.

BELL, REX H. Born September 28, 1954, Camden, Pre-medical education, Arkansas Tech University, Russellville, B.A./B.S., 1979. Medical education, UAMS, 1985. Residency field of study, Pathology.

BOWLIN, RANDAL GARY. Born June 28, 1958, Minden, LA. Premedical education, University of Central Arkansas, Conway, 1981. Medical education, UAMS, 1986. Internship, UAMS AHEC, Fort Smith. Residency field of study, Family Practice.

BRANNAM, LARRY ALAN. Born May 20, 1959, Pocahontas. Premedical education, University of Arkansas, Fayetteville, B.S., 1981. Medical education, UAMS, 1985. Residency field of study, Emergency Medicine.

BRIAN, JOHNNY EDWARD, JR. Born August 20, 1957, Camden. Pre-medical education, Hendrix College, Conway, B.A., 1979. Medical education, UAMS, 1983. Residency field of study, Anesthesia. Fellowship, Johns Hopkins, Baltimore, MD, Anesthesia.

BRYANT, CAROLE L. Born October 29, 1954, Nashville, AR. Premedical education, University of Arkansas, Fayetteville, B.A., 1976. Medical education, UAMS, 1980. Residency field of study, Obstetrics/Gynecology.

CALHOUN, MIKE. Born February 22, 1959, Hope. Pre-medical education, University of Arkansas, Fayetteville, B.A., 1981. Medical education, UAMS, 1985.

CARFAGNO, JEFFREY JOHN. Born December 10, 1958, Atkins. Pre-medical education, University of Arkansas, Fayetteville, 1981. Medical education, UAMS, 1985. Residency field of study, Family Practice.

CLARDY, JAMES A. Born August 21, 1958, Nashville, AR. Premedical education, Harding University, Searcy, B.S., 1980. Medical education, UAMS, 1986. Residency field of study, Psychiatry.

CUMMINS, J. CRAIG. Born December 27, 1958, Conway. Premedical education, University of Central Arkansas, Conway, 1981. Medical education, UAMS, 1985. Internship, AHEC-Pine Bluff. Residency field of study, Family Practice.

DILLON, BRIAN THOMAS. Born September 20, 1958, Houston, TX. Pre-medical education, University of Houston, B.S., 1981. Medical education, University of Texas Medical Branch Hospitals, Galveston, 1985. Residency field of study, Emergency Medicine.

DIXON, KEITH A. Born March 16, 1955, Harvey, LA. Pre-medical education, Louisiana State University, Baton Rouge, B.A., 1977. Medical education, Louisiana State University, Shreveport, 1982. Internship, Louisiana State University, Shreveport. Residency field of study, Internal Medicine. Fellowship, UAMS, Nephrology.

EISNER, RICHARD A. Born June 8, 1954, Pittsburgh, PA. Premedical education, University of Texas, Austin, 1976. Medical education, Texas Tech University, Lubbock, 1982. Residency field of study, Ophthalmology.

FARMIN, JEFFREY L. Born October 25, 1956, Pine Bluff. Premedical education, University of Arkansas, Fayetteville, B.S., 1979; B.A., 1980. Medical education, UAMS, 1984. Residency field of study, Emergency Medicine.

FEURTADO, MARGARET McGLAUFLIN. Born November 8, 1958, Pine Bluff. Pre-medical education, University of Arkansas, Fayetteville, B.S., 1980. Medical education, UAMS, 1986. Residency field of study, Emergency Medicine.

FISHER, ROBERT A. Born April 1, 1957, Little Rock. Pre-medical education, Louisiana State University, Baton Rouge, B.A. 1978. Medical education, UAMS, 1982. Residency field of study, Emergency Medicine.

FONG, FUN H., JR. Born July 21, 1957, Memphis, TN. Medical education, UAMS, 1983. Residency field of study, Emergency Medicine.

GARCIA-RILL, SUSAN G. Born October 7, 1953, Milwaukee, WI. Pre-medical education, University of Wisconsin, Madison, B.S., 1975. Medical education, UAMS, 1984. Residency field of study, Emergency Medicine.

GILLAM, DAVID LEWIS. Born December 6, 1957, Puerto Rico. Pre-medical education, Harding University, Searcy, 1980. Medical education, UAMS, 1985. Residency field of study, Orthopedic Surgery.

GLASGOW, MARK LAWRENCE. Born September 28, 1952, Santa Monica, CA. Pre-medical education, University of Texas, Austin, B.S., 1979. Medical education, University of Texas Health Sciences Center, San Antonio, 1985. Internship, UAMS. Residency field of study, Anesthesiology.

HARMON, BEN HUGH. Born January 20, 1960, St. Louis, MO. Pre-medical education, Hendrix College, Conway, M.A., 1982. Medical education, UAMS, 1986. Residency field of study, Radiology.

HEARD, JEANNE KEEL. Born April 16, 1949, Long Beach, CA. Pre-medical education, University of Arkansas, Little Rock, Ph.D., 1981. Medical education, UAMS, 1985. Residency field of study, Internal Medicine.

HENDREN, MIKE CONLEY. Born January 6, 1948, San Francisco, CA. Pre-medical education, University of Arkansas, Fayetteville, B.S., 1971. Medical education, UAMS, 1976. Residency field of study, Family Practice.

HEARNSBERGER, H. GRAVES, III. Born September 18, 1958, Camden. Pre-medical education, Southwestern at Memphis, TN, B.S., 1980. Medical education, UAMS, 1984. Internship, Brackenridge Hospital, Austin, TX. Residency field of study, Otolaryngology.

HOBBS, GREGORY D. Born October 3, 1958, Brownwood, TX. Pre-medical education, West Texas State University, Canyon, TX, 1980. Medical education, University of Texas Medical School, San Antonio, 1985. Residency field of study, Emergency Medicine.

KRABY-McLAURIN, BARBARA DEE. Born March 8, 1956, Wichita Falls, TX. Pre-medical education, University of Arkansas at Little Rock, B.A., 1980. Medical education, UAMS, 1985. Residency field of study, Emergency Medicine.

LYLE, ROBERT EARNEST. Born January 23, 1959, Longview, TX. Pre-medical education, Texas Christian University, Fort Worth, B.S., 1982. Medical education, University of Texas Medical School, San Antonio, 1986. Residency field of study, Urology.

MAHESH, VINIT K. Born August 21, 1959, New Haven, CT. Pre-medical education, University of Georgia, Athens, B.S., 1981. Medical education, Medical College of Georgia, Augusta, 1985. Residency field of study, Pediatrics.

MAHREY, WILLIAM THOMAS. Born August 30, 1956, Little Rock. Pre-medical education, University of Arkansas, Fayetteville, 1979. Medical education, UAMS, 1983. Internship, Presbyterian-St. Luke's Medical Center, Denver, CO. Residency field of study, Ophthalmology.

MANGUM, DONALD H. Born December 13, 1959, El Dorado. Pre-medical education, Louisiana Tech University, Ruston, B.S., 1982. Medical education, UAMS, 1986. Residency field of study, Internal Medicine.

McCOMB, RANDY GLEN. Born February 13, 1958, Ypsilanti, MI. Pre-medical education, University of Arkansas, Fayetteville. Medical education, UAMS, 1984. Residency field of study, Emergency Medicine.

McLEANE, MARK DOUGLAS. Born March 21, 1957, Rolla, MO. Pre-medical education, Louisiana Tech University, Ruston, B.S., 1979. Medical education, Louisiana State University School of Medicine, New Orleans, 1983. Internship, LSU Affiliated Hospitals, Charity Hospital, New Orleans. Residency field of study, Anesthesiology. Fellowship, UAMS, Advanced Clinical Anesthesia.

MIDDAUGH, RANDALL S. Born June 20, 1957, Omaha, NE. Pre-medical education, Texas Christian University, Fort Worth, B.S., 1979. Medical education, University of Texas Medical School, Houston and UAMS, 1983. Residency field of study, Anesthesia.

MILLER, KEITH EDWARD. Born July 3, 1957, Carter, TX. Pre-medical education, Baylor University, Waco, 1979. Medical education, UAMS, 1985. Residency field of study, Family Practice.

MURPHY, ROBERT A. Born August 14, 1957, Little Rock. Pre-medical education, Rhodes College, Memphis, B.S., 1979. Medical education, UAMS, 1983. Residency field of study, Internal Medicine. Fellowship, UAMS, Gastroenterology.

NAISBITT, MARK S. Born November 11, 1956, Missoula, MT. Pre-medical education, University of Utah, Salt Lake City; and Weber State College, Ogden, B.S., 1980. Medical education, University of Utah, Salt Lake City, 1986. Residency field of study, Anesthesiology.

NORMAN, CHARLES RANDALL. Born August 11, 1958, Little Rock. Pre-medical education, University of Oklahoma, Norman. Medical education, University of Oklahoma, Oklahoma City, 1985. Residency field of study, Opthalmology.

PETERSEN, MICHAEL S. Born October 6, 1958, Baltimore, MD. Pre-medical education, University of Iowa, Iowa City, B.S., 1980. Medical education, University of Iowa, Iowa City, 1986.

REIMUND, ERIC L. Born October 31, 1959, Arlington, VA. Pre-medical education, University of Virginia, Charlottesville, VA, B.A., 1982. Medical education, Eastern Virginia Medical School, Norfolk, 1985. Residency field of study, Pathology.

RHODES, DAVID FOSTER. Born November 23, 1955, Dallas, TX. Pre-medical education, University of Texas, Austin, 1979. Medical education, University of Texas Medical Branch Hospitals, Galveston, 1983. Residency field of study, Radiology. Fellowship, UAMS, Neuroradiology.

ROBBINS, JOSEPH R. Born January 10, 1958, Fort Smith. Pre-medical education, University of Arkansas, Fayetteville, B.A., 1980. Medical education, UAMS, 1984. Residency field of study, Radiology.

ROWLAND, SHERYL LYNN. Born June 10, 1961, Cheyenne, WY. Pre-medical education, University of New Orleans, LA, B.S./B.A., 1982. Medical education, Louisiana State University Medical School, Shreveport, 1986. Residency field of study, Pediatrics.

RUSSELL, JAMES B. Born January 26, 1955, Chicago, IL. Pre-medical education, Illinois State University, Normal, IL., B.A. 1977. Medical education, Southern Illinois University, Springfield, 1986. Residency field of study, General Surgery.

SINGER, PETER GRANT. Born July 17, 1957, Detroit, MI. Pre-medical education, University of California, Berkeley; and University of California, San Francisco, School of Pharmacy, 1984. Medical education, St. Louis University, St. Louis, MO, 1986. Residency field of study, Dermatology.

STANLEY, SHARILYN KAY. Born August 25, 1957, New Albany, IN. Pre-medical education, Rice University, Houston, B.A., 1979. Medical education, Baylor College of Medicine, Houston, 1983. Residency field of study, Internal Medicine. Fellowship, National Institutes of Health, Immunology.

STRATTON, RANDALL LOUIS. Born January 4, 1957, Dermott. Pre-medical education, University of Arkansas, Monticello, B.S., 1979. Medical education, UAMS, 1984. Residency field of study, Emergency Medicine.

TAYLOR, RUTH DARR. Born August 19, 1951, Columbia, SC. Pre-medical education, Converse College, Spartanburg, SC, B.A., 1972; University of South Carolina, Columbia, M.A., 1975; Furman University, Greenville, SC, 1981. Medical education, Medical University of South Carolina, Charleston and UAMS, 1986. Residency field of study, Radiology.

TEDDER, BARRY CRAIG. Born November 20, 1960, Natchez, MS. Pre-medical education, Millsaps College, Tuckson, MS, B.S. 1982. Medical school, University of Mississippi Medical Center, 1986. Residency field of study, Internal Medicine.

TOWBIN, JOHN ALAN. Born January 11, 1954, Fort Knox, KY. Pre-medical education, Colorado College, Colorado Springs, 1977. Medical education, UAMS, 1986.

TOWNSEND, MICHAEL EDWARD. Born March 15, 1960, Little Rock. Pre-medical education, University of Arkansas, Fayetteville, B.A., 1982. Medical education, UAMS, 1986. Internship, UAMS.

TURNER, KENNETH B. Born February 7, 1957, Memphis, TN. Pre-medical education, Harding College, Searcy, B.S., 1979. Medieal education, UAMS, 1983. Internship, Louisiana State University, Shreveport. Residency, UAMS-AHEC, Fort Smith. Residency field of study, Family Medicine.

WEBB, ROY TIMOTHY. Born July 1, 1955, Hot Springs. Pre-medical education, University of Arkansas, Fayetteville, B.A., 1977. Medical education, UAMS, 1982. Residency field of study, Internal Medicine. Fellowship, UAMS, Hematology/Oncology.

THIS SPACE CONTRIBUTED AS A PUBLIC SERVICE



How to live with someone who's living with cancer.

Learning to live with cancer is no easy task. Learning to live with someone else's cancer can be even more difficult.

Nobody knows better than we do how much help and understanding is needed. That's why our service and rehabilitation programs emphasize the whole family, not just the cancer patient.

We run local programs with volunteers who are recovered cancer patients, or whose lives have been touched by family members or friends with cancer. That's what makes us one of the largest, best-motivated and most caring of any health organization in the country.

Among our regular services we provide information and guidance to patients and families, transport patients to and from treatment, supply home care items and assist patients in their return to everyday life.

Life is what concerns us. The life of cancer patients. The lives of their families. So you can see we are even more than the research organization we are so well known to be.

No one faces cancer alone.

AMERICAN CANCER SOCIETY®

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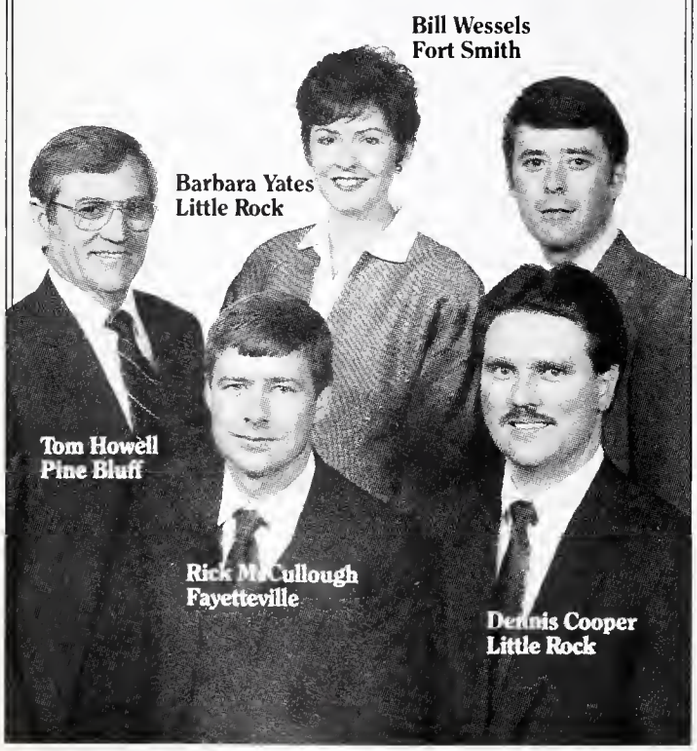
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111TH ANNUAL SESSION
ARKANSAS MEDICAL SOCIETY

Fayetteville Hilton and University
of Arkansas Center for Continuing Education
Fayetteville, Arkansas

APRIL 23-26, 1987

CONVENTION OFFICIALS

CONVENTION CHAIRMAN: R. W. Ross, M.D., Fort Smith

COMMITTEE MEMBERS:

Charles H. Rodgers, M.D., Little Rock
Jack L. Blackshear, M.D., Little Rock
Richard O. Martin, M.D., Paragould
Glen Baker, M.D., Little Rock
Ronald J. Bracken, M.D., Hot Springs
James L. Gardner, M.D., Hot Springs
Kelsey Caplinger, M.D., Little Rock
John Crenshaw, M.D., Pine Bluff
Murray T. Harris, M.D., Fayetteville
Ken Lilly, M.D., Fort Smith

Ex-Officio:

Mrs. J. E. McDonald, Fayetteville
Mrs. Danny Proffitt, Fayetteville

SUB-COMMITTEES:

Program:
Glen Baker, M.D., Little Rock
Ronald J. Bracken, M.D., Hot Springs

Scientific Exhibits:
Glen Baker, M.D., Little Rock

Sports:
Richard O. Martin, Paragould

Speaker Host:
Murray T. Harris, M.D., Fayetteville

Memorial Service:
John Crenshaw, M.D., Pine Bluff

Prayer Breakfast:
Fred Henker, III, M.D., Little Rock, Chairman of the Committee on Medicine and Religion

Socioeconomic Seminar:
Jack Blackshear, M.D., Little Rock

Shuffield Lecture:
Charles Rodgers, M.D., Little Rock

Social Chairman:
Mrs. Danny Proffitt

CONTINUING MEDICAL EDUCATION CREDIT

As an organization accredited for continuing medical education, the Arkansas Medical Society Committee on Scientific Programs certifies that this continuing medical education activity meets the criteria for hour-for-hour credit in Category I of the Physician's Recognition Award of the American Medical Association.

General Information

Registration

The location for the Society's registration desk and the hours for registration will be as follows:

Wednesday, April 22	2:00 p.m.- 5:00 p.m.	U of A Center for Continuing Education (4th floor)
Thursday, April 23	8:00 a.m.- 4:00 p.m.	U of A Center for Continuing Education (4th floor)
Friday, April 24	8:00 a.m.- 4:00 p.m.	U of A Center for Continuing Education (4th floor)
Saturday, April 25	8:00 a.m.- 4:00 p.m.	Hilton Hotel (2nd floor)
Sunday, April 26	8:00 a.m.-10:30 a.m.	Hilton Hotel (2nd floor)

Registration cards and badges will be prepared in advance for the officers of the Arkansas Medical Society and county society delegates.

All members and visitors are required to register, as admission to all sessions will be by badge only. There will be a $10 registration fee for nonmember physicians.

Advanced reservations will be requested by mail from both Society members and Auxiliarians for the Shuffield Luncheon on Friday at 12:00 noon, Razorback Party/Dance on Friday evening, Joint Specialty Luncheon, Saturday noon, Inaugural Banquet on Saturday evening, and the Prayer Breakfast on Sunday morning. Please watch your mail for reservation forms.

Telephone Service

The Society will have a convention telephone at the Hilton Hotel from April 22 to April 26. Members of the Society headquarters staff will take telephone calls during registration hours listed above. Members may leave the following numbers with their office personnel.

AMS Registration: Desk in Center for Continuing Education: 521-7374 (Wednesday, Thursday and Friday)
Hilton Hotel: 442-5555 (Saturday and Sunday, ask for AMS Convention Desk)

New Delegate and Reference Committee Luncheon

On Thursday, April 23, at 12:00 noon, the Society will host a luncheon for the new delegates to the House of Delegates and members of the Reference Committees. Speaker Amail Chudy and Vice Speaker Sybil Hart will explain the procedures of the Reference Committees and the House of Delegates.

Arkansas Blue Cross Blue Shield Reception

Arkansas Blue Cross Blue Shield will again sponsor a reception for all members of the Society. The reception is scheduled for 6:30 p.m. on Thursday evening, April 23, in the Hilton Hotel.

Wine and Cheese With the Exhibitors

To show our appreciation for the continuous support we receive each year from our exhibitors, the Society will sponsor a Wine and Cheese get together, Friday, April 24, in the Exhibit Hall. Please make your plans to attend from 4:30 p.m. until 5:30 p.m. and help us say thank you for their attendance.

Razorback Party Dance

A Razorback Party is planned for Friday evening beginning at 7:00 p.m. We encourage you to dress the part by wearing red and white. Following the dinner and entertainment, have your dancing shoes ready for an enjoyable evening of a wide variety of music. Young or old, it makes no difference, there will be music for you. Watch your mail for advance reservations.

Council Reception

Sponsored by API

American Physicians Insurance (API) will sponsor the Council Reception for members of the Society and their guests from 6:30 p.m. to 7:30 p.m. on Saturday evening in the Sequoyah Reception area preceding the inaugural dinner. Members are urged to attend.

Inaugural Banquet and Entertainment

Dr. Ray Jouett of Little Rock will be installed as the new president of the Arkansas Medical Society during a dinner beginning at 7:30 p.m. on Saturday, April 25, in the Sequoyah Ballroom of the Hilton Hotel. The current president of the Society, Dr. Ken Lilly of Fort Smith, will be master of ceremonies for the inauguration of Dr. Jouett. Entertainment is planned for the inaugural program. Mrs. Neva White, wife of Dr. William White of Searcy, will give a piano recital of Dr. Jouett's favorite musical pieces.

President's Luncheon

The Society will host a luncheon at 12:00 noon on Thursday, April 23, for physicians who have served as president of the Arkansas Medical Society. The luncheon will be held at The Old Post Office Restaurant in the center of Fayetteville's historic square.

Fifty Year Club Luncheon

The Society will host a luncheon for members of the Fifty Year Club on Friday, April 24, at 12:00 noon at the Hilton Hotel. The Fifty Year Club president is Dr. Frank Burton of Hot Springs and Dr. Ross Fowler of Harrison serves as secretary.

Physicians eligible for the Fifty Year Club this year are: Drs. John W. Dorman of Springdale, William B. Harrell of Texarkana, J. Arnold Henry of Russellville, George W. Jackson of Hot Springs, Albert E. Martin of Bentonville, Bert L. Phillips of North Little Rock, James L. Pickens of Rogers, Robert H. Robbins of North Carolina, and C. Yulan Washburn of Ward.

Prayer Breakfast

The Committee on Medicine and Religion will sponsor a Prayer Breakfast on Sunday morning, April 26, beginning at 7:30 a.m., for all members of the Society and Auxiliary. The breakfast will be in the Fayetteville Hilton.

The welcome and invocation will be presented by Dr. Fred Henker, Chairman of the Committee on Medicine and Religion with musical solo by David Hogan, Minister of Music at the First Baptist Church in Fort Smith. The devotional will be given by Dr. Tom H. Cole, Chief of Chaplains and Director of Pastoral Care and Education, Memorial Hospital System, Houston, Texas. A seminar entitled, "A Time to Live, A Time to Die" will immediately follow the breakfast. Moderator for the seminar will be W. D. White, Ph.D., Distinguished Professor of Humanities, St. Andrews Presbyterian College, Laurinburg, South Carolina. Other participants in the seminar are Joe B. Hall, M.D., Fayetteville; Mary Watermann, R.N., M.S., Clinical Nurse, Instructor of Nursing, Garland County Community College, Hot Springs; and Dr. Tom Cole, Houston, Texas.

Memorial Service

A joint Arkansas Medical Society/Auxiliary Memorial Service will be held at 10:30 a.m. on Sunday, April 26. The program will include reading of scripture from the Old Testament by John Crenshaw, M.D., of Pine Bluff. The President-elect of the Society, Ray Jouett, M.D., of Little Rock, will read the names of the members of the Society who have died during the previous year, and will lead the audience in a Litany. The names of the deceased members of the Auxiliary will be read by Mrs. James Gardner, Auxiliary President Elect, of Hot Springs. After New Testament readings, Dr. Monroe Painter of Fayetteville will close with the benediction. Members of the Society and Auxiliary who have died during the previous year are listed below:

Society Members

Alan Garner Cazort, M.D., Little Rock
Charles R. Chesnutt, Little Rock
Richard L. Daniel M.D., Little Rock
Lee Andrew Dean, M.D., Little Rock
William A. Ellis, Jr., M.D., Helena
T. P. Harper, M.D., Monette
J. Clyde Hart, M.D., Pine Bluff
Lloyce Hathcock, M.D., Fayetteville
William Binford Hawkins, M.D., North Little Rock
Louise McGammon Henry, M.D., Fayetteville
Jabez F. Jackson, Sr., M.D., Newport
Warren Harrison Kimsey, M.D., Austin
J. K. Laws, M.D., Texarkana
Orville B. McCoy, M.D., Harrison
Harry E. McEntire, M.D., North Little Rock
Martin P. Meisenheimer, M.D., Cherokee Village
Doyle H. Morrison, M.D., North Little Rock
Clyde Dudley Rodgers, M.D., Little Rock
John K. Sigler, M.D., Fort Smith
Gilbert Wayne Taylor, M.D., Caraway
Samuel R. Turner, M.D., Batesville
F. E. Utley, M.D., Blytheville
Lawrence M. Zell, M.D., Little Rock

Auxiliary Members

Mrs. Sterling Bond, Little Rock
Mrs. Adron M. Bradley, Forrest City
Mrs. Lucas Byrd, Jr., Little Rock
Mrs. John Dodson, Hot Springs
Mrs. W. Roger Vaughter, Little Rock
Mrs. Charles Wallis, Little Rock
Mrs. J. T. Wood, Crossett

Athletic Activities

Members of the Society and Auxiliary who may be interested in golf, tennis, racquetball or Nautilus may contact: Fayetteville Country Club Pro Shop at 442-5112; Bill Agler at the Paradise Valley Athletic Club at 521-5841; Darrell Scott, Manager of the Summerhill Racquet Club at 521-8241 or Rick Stroud, CEC Coordinator at the University of Arkansas "HYPER" Building. The "HYPER" Building also provides swimming, basketball and jogging.

Business Session

Meetings of the Council

The Council of the Arkansas Medical Society will meet daily during the convention at times listed below. All meetings will be held in the Fayetteville Hilton.

Thursday, April 23	7:30 a.m.
Friday, April 24	7:30 a.m.
Saturday, April 25	7:30 a.m.
Sunday, April 26	7:30 a.m.
Sunday, April 26	Immediately following adjournment of the House of Delegates (brief reorganizational meeting and group photograph of new officers)

The voting members of the Council are: the councilors, the president, the first vice president, president-elect, secretary, treasurer, and immediate past president. The speaker, vice speaker, and other past presidents are members ex-officio without vote.

House of Delegates

The opening session of the House of Delegates of the Arkansas Medical Society will begin at 1:00 p.m. on Thursday, April 23. Speaker of the House, Amail Chudy, M.D., will preside, assisted by Vice Speaker Sybil Hart, M.D.

All items of business to be considered by the House must either be printed in the March issue of the *Journal* or submitted to the headquarters office in writing twenty days prior to the meeting. Any new business proposed during the sessions of the House of Delegates must have a two-thirds vote of attending delegates for introduction.

Items of business will be referred by the Speaker of the House of Delegates to one of two reference committees. Opening hearings on those items of business will be held by the reference committees following the session of the House. All members of the Society are welcome to attend the meetings of the reference committees and to express views on the various reports, resolutions, etc.

AGENDA
FIRST MEETING, HOUSE OF DELEGATES
1:00 p.m., Thursday, April 23
Amail Chudy, M.D., Speaker
Sybil Hart, M.D., Vice Speaker



Alan R. Nelson, M.D.
Chairman, Board of Trustees of the American Medical Assoc.

1. Call to Order
2. Introduction of Guests:
   Mrs. Robert Valentine, North Little Rock, President of the Arkansas Medical Society Auxiliary
   Mrs. James Gardner, Hot Springs, President-elect of the Arkansas Medical Society Auxiliary
   Mrs. Albert J. Strauss, Jr., Hagerstown, Maryland, AMA Auxiliary Recording Secretary
   Mrs. John Hopper, Baton Rouge, Louisiana, President, Southern Medical Association Auxiliary
3. Alan R. Nelson, M.D., Salt Lake City, Utah, Chairman, Board of Trustees of the American Medical Association
4. Address by the President of the Arkansas Medical Society, Ken E. Lilly, M.D., Fort Smith
5. Adoption of minutes of the 110th Annual Session as published in the June 1986 issue of *The Journal of the Arkansas Medical Society*.
6. Adoption of minutes of House session held November 23, 1986, as published in the January 1987 issue of *The Journal of the Arkansas Medical Society*.
7. Old Business
   A. S. Koenig, Jr., M.D., Chairman of the Constitutional Revisions Committee, will present proposed amendments to the Constitution and Bylaws for final consideration of the House. (Proposed amendments appear under "House of Delegates Business Affairs" heading in this section of the *Journal*.

8. New Business
   A. Report from Legislative Committee
   B. Reports from other Committees
9. Announcement of Vacancies on State Boards
10. Recess until Sunday

AGENDA
FINAL MEETING, HOUSE OF DELEGATES
11:15 a.m., Sunday, April 26
Presiding: Amail Chudy, M.D., Speaker
Sybil Hart, M.D., Vice Speaker

1. Call to Order
2. Election (See Nominating Committee Report)
3. Reports of Reference Committees
4. Supplemental Report of Council covering convention meetings, J. Larry Lawson, M.D., Chairman
5. Old Business
6. New Business
   (A) State Board of Health (3rd district, 6th district, and Member-at-large positions)
7. Adjournment

Reference Committees

Reference Committees are appointed by the Speaker of the House of Delegates to consider the various reports and resolutions. Reports published in the March issue of the *Journal*, as well as any reports and resolutions presented at the first meeting of the House on April 23, will be referred by the Speaker to the reference committees. The committees hold opening hearings immediately following the House of Delegates session on Thursday. After the opening hearings, the reference committees will hold executive sessions for the purpose of preparing recommendations and reports for the House of Delegates. Reports of the Reference Committees will be acted upon by the House of Delegates at the Sunday session. Reference Committee members are as follows:

Reference Committee #1: Ronald Bracken of Hot Springs, Chairman; L. J. P. Bell, Helena; Warren Douglas, Little Rock; Milton Deneke, West Memphis; John Hestir, DeWitt; and Steve Wood of Little Rock, Medical Student Observer. *Reference Committee #2:* William Jones of Little Rock, Chairman; Jim Lytle, Batesville; David Rodgers, Fayetteville; Charles F. Wilkins, Jr., Russellville; Todd Holt, Little Rock; and Bryan H. Perlmutter, Medical Student Observer.

State Board Vacancies

Arkansas State Board of Health

Vacancies will occur December 31, 1987, in the Third and Sixth Congressional District positions and the member-at-large position on the Board of Health. Three nominees are required for each position. Those presently serving are eligible for reappointment.

The member-at-large position is now held by Robert D. Miller, M.D., of Helena. Nominations for this position are selected by the Nominating Committee of the Society.

Members from the counties in the Third and Sixth Congressional Districts will meet to select nominees for the Board positions. The meetings will be held by districts immediately following adjournment of the House of Delegates session on Thursday. Members presently serving on the Board and the counties in the districts are:

Third District: Ken Lilly, M.D., Fort Smith

Counties in District: Baxter, Benton, Boone, Carroll, Crawford, Franklin, Johnson, Logan, Madison, Marion, Newton, Scott, Searcy, Sebastian, Van Buren, and Washington.

Sixth District: Howard R. Harris, M.D., Dumas

Counties in District: Arkansas, Chicot, Cleveland, Dallas, Desha, Drew, Garland, Grant, Hot Spring, Jefferson, Lincoln, Lonoke, and Saline.

Arkansas Medical Society Political Action Committee

The Board of Directors of the Arkansas Medical Society Political Action Committee will meet at 4:00 p.m. on Saturday, April 25th, in the Hilton Hotel.

Arkansas State Board of Health

The Arkansas State Board of Health will hold a luncheon meeting at 12:00 noon on Friday, April 24, in the Hilton Hotel.

General Scientific Program

"Not Everything in Medicine Is Black or White"

Friday, April 24

First General Session — Presiding: Paul D. Meredith, M.D., Third Vice President, Arkansas Medical Society, Texarkana

8:30 a.m. "Problem of Otitis Media in Infants and Children"
Roger B. Bost, M.D., Professor of Pediatrics, Children's Care Center, Arkansas Children's Hospital, Little Rock
Robert Seibert, M.D., Chief, ENT Section, Director of Arkansas Children's Hospital Cleft Clinic and Associate Professor of Otolaryngology and Maxillo Facial, Department of Surgery, University of Arkansas for Medical Sciences, Little Rock
Kelsey Caplinger, M.D., Little Rock
James Pappas, M.D., Little Rock
Charles Floyd, M.D., Fort Smith

10:30 a.m. "All-Terrain Vehicles — Injuries and Death"
E. Stevers Golladay, M.D., Professor of Surgery and Pediatrics, Arkansas Children's Hospital, Little Rock
"The Team Approach to Multiple Injured Patients"
John B. Cone, M.D., Assistant Professor, Department of Surgery, University of Arkansas For Medical Sciences, Little Rock
Mark A. McAndrew, M.D., Assistant Professor, Head Section of Trauma, Department of Orthopaedic Surgery, University of Arkansas Medical Sciences, Little Rock

Second General Session — Presiding: James L. Gardner, M.D., First Vice President, Arkansas Medical Society, Hot Springs

1:30 p.m. "Acquired Immune Deficiency Syndrome"
Richard Inskip, M.D., Past President, American Academy of Family Physicians, Reno, Nevada

3:00 p.m. "Interrelationships Between Nutrition and Cancer"
David Lipschitz, M.D., Ph.D., Professor of Medicine, Director of Geriatric Research, Education, and Clinical Center, John L. McClellan VA Hospital, Little Rock
"Adolescent Eating Disorders"
Susan Jay, M.D., Director of Adolescent Medicine and Associate Professor of the Department of Pediatrics, Arkansas Children's Hospital, Little Rock

Saturday, April 25

8:00 a.m. "Radial Keratotomy" (Concurrent Session #1)
Michael Farrell Brown, M.D., Department of Ophthalmology, University of Arkansas for Medical Sciences, Little Rock

8:00 a.m. "Sports Medicine" (Concurrent Session #2)
Tom Cantwell, Director of Sports Medicine, Parker Orthopaedic Spine Institute, Fort Smith

8:00 a.m. "Current Concepts in Trauma — The Advanced Trauma Life Support (ATLS) Course" (Concurrent Session #3)
Charles Mabry, M.D., Pine Bluff

8:00 a.m. "Breast Cancer — Diagnosis and Treatment"
James H. Bledsoe, M.D., Rogers
Frank Panettiere, M.D., Rogers
Bernard Fioravanti, M.D., Department of Radiology, Rogers Memorial Hospital, Rogers
Ken Gardner, M.D., Medical Director, North Arkansas Radiation Therapy Institute, Springdale

9:00 a.m. Concurrent Sessions #1 and #2 repeated

Group Specialty Meetings

The Arkansas Chapter of The American College of Surgeons will have a luncheon on Friday, April 24, at 12:00 noon.

The Arkansas Society of Internal Medicine will meet at 10:00 a.m. on Saturday, April 25. The program will be presented by William Golden, M.D., Trustee of the American Society of Internal Medicine and President of the Arkansas Society of Internal Medicine. The program topic will be "Future Reimbursement for Internal Medicine Activities." A general business session will follow.

The Arkansas Society of Pathologists will meet at 10:00 a.m. on Saturday, April 25 for a business meeting and then will participate in the Joint Specialty Luncheon.

The Arkansas Chapter of the American College of Radiology will meet on Saturday, April 25. The Executive Committee will meet at 10:00 a.m. with a general business meeting to follow at 11:00 a.m. Members may then participate in the joint luncheon.

The Arkansas Urologic Society will meet at 11:00 a.m. on Saturday, April 25, for cocktails with a luncheon immediately following at 12:00 noon. Guest speaker for the scientific program will be Harry C. Miller, M.D., Professor and Chairman, Department of Urology, George Washington University, Washington, DC. A business session will follow the scientific program.

The Arkansas Psychiatric Society members will participate in the Joint Specialty Luncheon on Saturday, April 25. No business meeting is scheduled.

The Arkansas Academy of Family Physicians will meet at 1:30 p.m. on Saturday, April 25, in the Hilton Hotel. A scientific program and business meeting is planned with Dr. Richard Inskip, Past President of the Academy of Family Physicians, as guest speaker.

The Arkansas Academy of Ophthalmology will meet on Saturday, April 25, beginning at 9:00 a.m. Tom Spoor, M.D., Associate Professor of Ophthalmology at Wayne State University of Medicine in Detroit, Michigan, will address the group on "Orbital Disease Neuro-ophthalmology." The group will break at 12:00 noon to participate in the Joint Specialty Luncheon. There will be a political organizational meeting immediately following the luncheon.

The Arkansas Society of Otolaryngology will meet at 8:30 a.m. on Saturday, April 25. Drs. Michael C. Reese of Rogers and Glen G. Fincher of Fayetteville will discuss "Mechanism and Treatment of Sinus Infections and Diseases." Dr. Carlton L. Chambers of Harrison will moderate a panel discussion on interesting cases.

Socioeconomic Seminar

All members of the Society and their spouses are invited to attend a seminar at 3:30 p.m. on Thursday, April 23. Jack L. Blackshear, M.D., a member of the Annual Session Committee, will preside at the session for presentation of the program.

Corporate Interest in Health Care



Jim von Gremp

This seminar will feature Jim von Gremp who currently serves as Director, Corporate and Public Affairs of Wal-Mart Store, Inc., headquartered in Bentonville, Arkansas. Wal-Mart currently employees over 130,000 associates in over 23 states with a 1,000 store trade territory. Other operating divisions include over 50 Sam's Wholesale Club units in 13 states, three Helen's Arts and Crafts, five Dot Diseount Drug Stores, 11 distribution centers, and the general office complex.

Mr. von Gremp joined Wal-Mart 13 years ago and also serves as the Administrator of the Wal-Mart Foundation. Prior to joining Wal-Mart, he served as senior accountant with Touche Ross and Company in their Kansas City office.

Mr. von Gremp will give us a first hand look at "Corporate Interest in Health Care."

Society/Auxiliary Political Luncheon

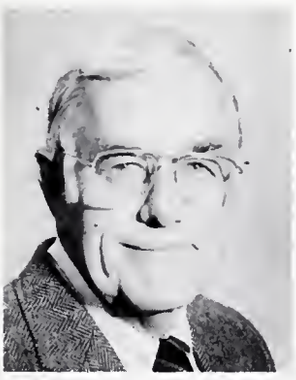


Michael E. Dunn

In January 1984, the Council of the Society established the Shuffield Trust Fund to provide funding for an annual lecture to be held in the memory of Dr. Elvin Shuffield. This year's Shuffield Lecture and Luncheon will be held on Friday, April 24, at 12:00 noon. Members of the Society and the Auxiliary are encouraged to attend. The speaker for the 1987 Shuffield Luncheon is Michael E. Dunn, President of Michael E. Dunn and Associates, Inc., in Washington, DC.

Mr. Dunn is a political scientist from Southern Arkansas University and North Texas State University and has served as an instructor of political sciences at the University of Arkansas at Monticello. In Washington, DC, he served as a legislative assistant to two U. S. Representatives before becoming director of government relations services for the Public Affairs Council. In 1976, he founded Michael E. Dunn and Associates, Inc. In addition to active membership in several professional public affairs organizations, he is a founder and past president of the Washington Area State Relations Group. Mr. Dunn is also a well-known lecturer and leader of seminars and workshops on PACs, grass roots political action and political education.

One of the major areas of expertise of Michael E. Dunn and Associates, Inc. has been in the development of integrated, grass roots programs for state government relations. The programs are designed to help trade associations with limited state relations resources organize for maximum effectiveness. In a political environment characterized by a growing shift of power and responsibility we can ill-afford to ignore our country's "laboratories of democracy." His firm advises associations on program design, setting up state PACs and training program participants. The firm works exclusively with corporate and trade association PACs at the federal and state level.



Dr. William Emery

Joint Specialty Luncheon



Mr. Scott Abell

All specialty societies are invited to a joint luncheon on Saturday, April 25, at 12:00 noon at the Hilton Hotel. The results of a recent survey of the Society's membership indicated the desire to have a clearer viewpoint of "What Corporate America Wants from Organized Medicine." Dr. William Emery and Mr. Scott Abell, Whirlpool Corporation, offices will be our featured speakers. Dr. Emery is the Director of Corporate Medical Services from Whirlpool in Benton Harbor, Michigan, and Mr. Abell is the Director of Human Resources of the Fort Smith division of Whirlpool.

Arkansas Medical Society Auxiliary

"PUT YOUR HEART IN AUXILIARY"
SIXTY-THIRD ANNUAL SESSION
April 23-26, 1987
Hilton Hotel and University of Arkansas Center for Continuing Education
Fayetteville, Arkansas
Registration Hours: Hilton Hotel

Thursday ..... 1:30 p.m. to 4:00 p.m.
Friday ..... 8:00 a.m. to 12:00 Noon
Saturday ..... 8:00 a.m. to 10:00 a.m.

Thursday, April 23

1:30 p.m. Pre-Convention Board Meeting. Joint meeting for ALL State officers, State committee chairmen, county presidents and presidents-elect. All NEW Board members for 1987-88 are cordially invited to attend.
2:30 p.m. Exchange Workshop for presidents, presidents-elect, old chairmen and new chairmen of state committees
3:30 p.m. SOCIOECONOMIC SEMINAR — "Corporate Interest in Health Care" — Jim von Gremp, Director, Corporate and Public Affairs of Wal-Mart Stores, Inc.
6:30 p.m. Reception hosted by Arkansas Blue Cross and Blue Shield, Hilton Hotel

Friday, April 24th

8:30 a.m. Continental Breakfast
9:00 am. Opening General Session
Mrs. Robert Valentine, President, presiding
Invocation: Mrs. Amail Chudy
Auxiliary Pledge: All members
Welcome: Mrs. J. E. McDonald, President, Washington County Medical Society Auxiliary, Fayetteville
Response: Mrs. Jerry Blaylock, 1985-1986 Past President, Jonesboro
Roll Call and Seating of Delegates: Mrs. Robert Lewis, Recording Secretary
"History of Hearts in Health": Mrs. Frank Padburg, Historian
Introduction of Guests
Mrs. John Hopper, President, Southern Medical Association Auxiliary, Baton Rouge, Louisiana
Mrs. Albert J. Strauss, Jr., American Medical Association Auxiliary Recording Secretary, Hagerstown, Maryland
Address by:
Alan Nelson, Chairman, Board of Trustees, American Medical Association
Ken Lilly, President, Arkansas Medical Socicty
Ray Jouett, President-elect, Arkansas Medical Society
Ken LaMastus, Executive Vice President, Arkansas Medical Society
David Wroten, Assistant Executive Vice President, Arkansas Medical Society
Peggy Pryor Cryer, Director of Administrative Services, Arkansas Medical Society
Presentation of Rules of Convention
Convention Announcements and Drawing for Door Prizes (must be present to win): Mrs. J. E. McDonald and Mrs. Danny Proffitt, Convention Co-Chairmen Announcement of Convention Committees
*Reading Committee
*Courtesy Resolution Committee
Greetings from Mrs. Albert J. Strauss, Jr., American Medical Association Auxiliary Recording Secretary, Hagerstown, Maryland
Timekeeper:
Mrs. Harold Langston, Parliamentarian
Report of Board of Directors, Mrs. Robert Lewis, Recording Secretary
Reports of officers and committee chairmen
Unfinished Business

New Business
Election of the Nominating Committee
(two from the Board; two from the House of Delegates)
Election of Delegates and Alternates to AMA Auxiliary Convention, Chicago
Presentation of the 1987-88 Budget: Mrs. Walter Mizell, Finance Chairman
Adjournment

12:00 Noon Joint luncheon with the Society — Shuffield Lecture, Michael E. Dunn, Legislative Consultant, Washington, DC

Afternoon Activities: Planned Tours

4:30 p.m. Wine and Cheese with Exhibitors — Joint with Society

7:00 p.m. Razorback Party/Dance — Joint with Society

Saturday, April 25

8:00 a.m. Past Presidents' Breakfast

8:00 a.m. Membership Workshop — Mrs. Albert J. Strauss, Jr., American Medical Association Auxiliary Recording Secretary, Hagerstown, Maryland
All Regional Vice Presidents, Members-at-Large Chairman, Resident Physician and Medical Student Spouse Chairmen, 1987-88 County Presidents, and County Presidents-elect
Mrs. James Gardner, President-elect, presiding

8:30 a.m. Continental Breakfast

9:00 a.m. Second General Session
Mrs. Robert Valentine, President, presiding
Invocation: Mrs. Jerry Blaylock
Roll Call and Seating of Delegates
Mrs. Robert Lewis, Recording Secretary
Reading of the Minutes of the First General Session
Mrs. Robert Lewis, Recording Secretary
Convention Announcements and Drawing for Door Prizes (must be present to win): Mrs. J. E. McDonald or Mrs. Danny Proffitt, Convention Co-Chairmen
Report of Past Presidents' Breakfast
Introduction of Guests
Greetings from Mrs. Virginia Hopper, President, Southern Medical Association Auxiliary, Baton Rouge, Louisiana
Reports of County Presidents
Moderators: District Vice Presidents
Southwest: Mrs. Dale Kincheloe
Southeast: Mrs. Peter Marvin
Northwest: Mrs. Sinclair Armstrong
Northeast: Mrs. Trent Pierce
Registration Committee Report
Unfinished Business
New Business
Report of the Nominating Committee
Mrs. Jerry Blaylock, Chairman
Mrs. Kemal Kutait
Mrs. Dale Kincheloe
Mrs. Charles Logan
Mrs. Pat Phillips
Election of Officers
Report of Resolutions Committee: Mrs. Gordon Oates
Adjournment

12:00 noon Luncheon, Old Post Office Restaurant
Hostesses: Garland County and Pulaski County
Invocation: Mrs. Raymond Peeples
Introduction of Guests: Mrs. Robert Valentine

Presentation of Awards:
AMA-ERF: Mrs. David Williams
Membership: Mrs. James Gardner
Vinnie Garrison: Mrs. Lynn Harris
Doctor's Day: Mrs. Curry Bradburn
Installation of Officers: Mrs. Kemal Kutait
Presentation of Past President's Pin: Mrs. Frank Morgan
Presentation of President's Pin and Gavel by Mrs. Valentine to Mrs. Gardner
President's Message: Mrs. James Gardner
Adjournment: Mrs. Gardner
Post Convention Board Meeting, Old Post Office Board Room
All 1987-88 officers, chairmen, county presidents, and county presidents-elect are expected to attend.
Mrs. James Gardner, President, presiding

2:30 p.m. Afternoon Activities: University of Arkansas Tour
6:30 p.m. Council Reception sponsored by American Physicians Insurance Exchange (API)
7:30 p.m. Inaugural Dinner

Sunday, April 26

7:30 a.m. Joint Prayer Breakfast and Seminar with Arkansas Medical Society
10:30 a.m. Joint Society and Auxiliary Memorial Service
11:00 a.m. Adjourn

House of Delegates Business Affairs

Business items printed below are brought to the attention of individual members and the county medical societies. The items reported here represent those received in time for publication in advance of the meeting. All reports will be referred to reference committees. Members are urged to attend the opening hearings of the reference committees to express their views. Reference committee hearings are scheduled for 2:30 p.m. on Thursday, April 23.

Old Business

The following proposed changes in the Society Constitution and Bylaws were approved by the House of Delegates on the first reading in April 1986. If approved by the House of Delegates at the 1987 meeting, the changes become effective at that time.

1. Article IX. Officers
Delete the word "twenty" specifying the number of councilors and add "immediate past president" as an officer. The section would then read: "The officers of this Society shall be a president, president-elect, three vice presidents, Speaker of the House of Delegates, Vice Speaker of the House of Delegates, a secretary, a treasurer, an immediate past president, and councilors. Their qualifications and terms of office shall be as provided in these Bylaws."
2. Chapter V. Election of Officers
Delete the words "each year ten" in Section 6 so that it will read: "Councilors shall be elected to serve a two-year term; all other terms of office are for one year. All officers shall serve until their successors are installed."
3. Chapter VI. Duties of Officers
Delete the second sentence of Section 8, which reads "the two councilors in each district shall be designated 'senior' and 'junior' on the basis of length of tenure" and substitute "the one in each district with the longest tenure shall be considered the senior councilor." The revised section would then read: "Each councilor shall be organizer, peace maker, and censor for his district. The one in each district with the longest tenure shall be considered the senior councilor."
The Committee was requested by the Council of the Society to present proposals regarding component society representation on the Council and in the House of Delegates. The Committee offers the following recommendations:
4. Chapter 1. Membership. Section 2. Membership Classifications.
(B) Life Membership
Delete "an active member who" and substitute "a Physician who has been an active member of this Society for a period of ten years and who," so that the section would read:

"A physician who has been an active member of this Society for a period of ten years and who has continuously been a member of organized medicine and has either (1) attained age seventy or (2) practiced forty-five years shall be eligible for life membership and, upon the recommendation

of his component society, shall be granted such status by the House of Delegates. Life Members shall have the right to vote, hold office, and all other privileges of membership in this Society.

5. Chapter 1, Membership. Section 2. Membership Classifications.
   (C) Emeritus Membership
   Delete "an active member who" and substitute "a physician who has been an active member of this Society for a period of ten years and who"; delete the word "not" in the last sentence. The section as revised would read:
   "A physician who has been an active member of this Society for a period of ten years and who has continuously been a member of organized medicine for less than forty-five years and who has fully retired from the practice of medicine shall be eligible for Emeritus Membership. Such membership shall be granted by the House of Delegates upon the recommendation of the member's component society. Emeritus members shall have the right to vote, hold office, and all other privileges of membership in this Society."

6. Chapter IV. House of Delegates. Section 6. Representation of Component Societies
   Add the following as (A)(1) of Section 6:

   "Representation for the House of Delegates shall be based upon the number of dues-paying active members, life members, emeritus members, and associate members as of December 31 of the year preceding the annual meeting. Those active members who are paying only one-half of the regular dues amount shall be counted in the same manner as associate members."
   Retain the present wording for (A)(2) of Section 6:
   "Two associate members of a component society shall count as one full membership in determining delegate representation of that component society." Renumber the present (A)(1) as (A)(3) of Section 6 and add the words underscored:
   "Each regular county society shall be entitled to send to the House of Delegates each year one delegate for every twenty-five Arkansas Medical Society members as specified in (A)(1) and (A)(2), and one for each major fraction thereof, provided that its annual report and assessment are in the hands of the executive vice president by March 1st of each year. Each county society, however, regardless of its number of members, which has complied with this section, shall be entitled to one delegate."

7. Article VI. Council.
   Add the following as a new Section 3:
   Section 3. Representation
   "Representation on the Council shall be based upon the enumeration of members in each councilor district in accordance with provisions of these Bylaws for representation in the House of Delegates."
   Renumber the present Section 3 (Executive Committee) as Section 4.

New Business
Nominating Committee
Charles Logan, M.D., Chairman

The Nominating Committee met on November 23, 1986, immediately following the Winter Meeting of the House of Delegates and wishes to present to the Society the following nominations:

President-elect: John Hestir, M.D., DeWitt
A. E. Andrews, M.D., Texarkana
First Vice President: Wendell Ross, M.D., Fort Smith
Second Vice President: James Pappas, M.D., Little Rock
Third Vice President: Lee B. Parker, Jr., M.D., Fayetteville
Treasurer: James M. Kolb, Jr., M.D., Russellville
Secretary: James R. Weber, M.D., Jacksonville
Speaker of the House: Amail Chudy, M.D., North Little Rock
Vice Speaker of the House: Sybil Hart, M.D., Blytheville
Councilors:

District 1: Merrill J. Osborne, M.D., Blytheville
District 2: Jim E. Lytle, M.D., Batesville
District 3: Hoy B. Speer, M.D., Stuttgart
District 4: Lloyd Langston, M.D., Pine Bluff
District 5: George Warren, M.D., Smackover
District 6: F. E. Joyce, M.D., Texarkana
District 7: Thomas H. Hollis, M.D., Hot Springs
District 8: Charles Logan, M.D., Little Rock
Paul Cornell, M.D., Little Rock
Warren Douglas, M.D., Little Rock
District 9: Richard N. Pearson, M.D., Rogers
District 10: W. P. Phillips, M.D., Fort Smith

Delegate to the AMA: T. E. Townsend, M.D., Pine Bluff
Alternate Delegate to the AMA: W. Payton Kolb, M.D., Little Rock

Resolution by the Pulaski County Medical Society Concerning Teenage Pregnancy

WHEREAS, teenage pregnancy is a significant problem particularly in the State of Arkansas which ranks second in the nation in occurrence; and

WHEREAS, teenage pregnancy interferes with the educational maturation of young people; and

WHEREAS, the future of the State of Arkansas is based on the educational achievements of its young citizens; and

WHEREAS, the Women's Auxiliary to the Arkansas Medical Society and other community organizations have recognized this problem; and

WHEREAS, these organizations are making every effort to educate the public to assist young people to cope with the problem; therefore be it

RESOLVED, that the physicians of Arkansas acknowledge and applaud the efforts of these organizations and individuals in the resolution of this problem, and

RESOLVED, that physicians provide assistance and where necessary leadership to these efforts.

Resolution by the Pulaski County Medical Society Concerning Tobacco Smoke

WHEREAS, for many years the smoking of tobacco has been etiologically associated with pulmonary, cardiac and malignant diseases in man, and

WHEREAS, the Arkansas Medical Society has a responsibility to lead and direct public opinion, to educate the public in matters of health, and to help secure the enactment of medical laws useful in the prevention and cure of diseases, and

WHEREAS, the Surgeon General of the United States has concluded that healthy people who do not smoke can develop lung cancer and other diseases simply by inhaling smoke from others, and

WHEREAS, it will be a failure of organized medicine to fail to adopt a strong public stance against smoking in order to protect the public health; therefore be it

RESOLVED, that the Arkansas Medical Society totally ban the smoking of tobacco in all meetings of the Society, and

RESOLVED, that all state-wide organizations be encouraged to adopt similar bans, and

RESOLVED, that the Governor and elected representatives be encouraged to consider legislation for total bans on the smoking of tobacco in any public gathering place as well as in lecture halls, meeting places and food service areas in state supported universities, colleges and secondary schools, and

RESOLVED, that the Arkansas Medical Society encourages its members to work for similar smoking bans in their local hospitals and schools.

Resolution by the Pulaski County Medical Society Concerning AIDS

WHEREAS, AIDS is a syndrome caused by a transmissible virus, HIV, that threatens to become the major international lethal pandemic disease of the 20th Century, and

WHEREAS, since its first observation in the United States in 1981, more than 29,000 cases and 15,000 deaths from AIDS have been reported and the Centers for Disease Control have estimated 274,000 cases by the year 1991, and it is estimated that 1.5 million people in the United States are now infected with HIV of whom 30% will develop AIDS in five years, and

WHEREAS, the earliest estimate of the availability of a vaccine has been placed at the year 1990, and

WHEREAS, education and behavior modification are the only tools immediately available to slow the spread of the epidemic for the foreseeable future, and

WHEREAS, AIDS has a predictable fatal outcome and its impact on the health and economics of our state and nation are potentially disastrous, and

WHEREAS, the Surgeon General predicts that during 1991 there will be 145,000 AIDS patients requiring hospitalization, that 54,000 patients will die of the disease, that the cost for health and supportive services will total between $8 billion and $16 billion while in our State the cost of caring for just 19 cases at our University Hospital exceeded $250,000 and,

WHEREAS, seventy percent of the newborns of antibody positive mothers are themselves antibody positive and most will die, and

WHEREAS, AIDS is no longer a syndrome confined to the original risk groups of male homosexuals and IV drug abusers but now is known to be a heterosexual transmitted virus with 10% of the new cases resulting from heterosexual contact, and

WHEREAS, the Arkansas Medical Society is obligated to help secure the enactment of medical laws, to enlighten public opinion and to be useful in the prevention and cure of disease; therefore be it

RESOLVED, that the Arkansas Medical Society immediately seek legislation which would implement actions suggested by the Surgeon General to control the spread of AIDS as follows:

(1) To provide sex education in the schools which would include information on heterosexual as well as homosexual relationships with emphasis on the prevention of AIDS and other sexually transmitted diseases.
(2) To develop plans and policies to educate the general public on the medical, psychological, and economic aspects of the AIDS epidemic.
(3) To consider the implementation of a premarital blood test for the AIDS antibody as a requirement for a marriage license, including the requirement of physician counseling of sero-positive applicants regarding the risks of infection to the future spouse and children of the marriage.
(4) To aid in the protection of the rights of the infected as well as the uninfected in the home, workplace, and at sites of the delivery of personal services, and

RESOLVED, that the Arkansas Medical Society establish an AIDS ad hoc committee to develop plans and programs designed to educate our physician members

on AIDS and who in turn would seek to educate their patients on the risk factors and behavior that expose them to infection with the virus.

Resolution From Tri-County Medical Society Regarding Arbitrary Acts By Trustees, Administrators, and Commercial Entities

WHEREAS, certain citizens of the State of Arkansas are being denied access to medical care by their choice of practitioner, and

WHEREAS, certain Arkansas physicians may have a justifiable cause of action against certain commercial insurance carriers doing business in Arkansas, and

WHEREAS, that by an established arbitrary act by said insurance carriers, albeit found by the courts to be legal, these same insurance carriers, by a second act, may deny an application made in effort to satisfy the first arbitrary act; and

WHEREAS, certain Arkansas hospital directors have, by unreasonable and arbitrary acts, caused some citizens of the State of Arkansas to be denied access to medical care by their choice of Arkansas physicians, and

WHEREAS, these lay boards and hospital administrators together with certain commercial entities are regulating the practice of medicine in an unauthorized manner; therefore be it

RESOLVED, that this Tri-County Medical Society finds these acts unreasonable, capricious, and arbitrary, and by adopting this resolution directs its Delegates to the Arkansas Medical Society to submit this resolution to the next House of Delegates for adoption by the Arkansas Medieal Society.

Resolution From Tri-County Medical Society Concerning Seatbelt Use

WHEREAS, the Arkansas Medical Society has in the past placed itself on record in favor of the universal use of seatbelts in automobiles, and

WHEREAS, the enactment of legislation requiring such seatbelt use has been part of their agenda, and

WHEREAS, all legislation in Arkansas as well as in other states, which regulates dangerous types of behavior, i.e., drug abuse, drunken driving, 18th amendment, abortion, 55 miles per hour speed limit, have been found to be unenforceable and have thus fallen far short of the solution of the problem, and

WHEREAS, educational programs aimed at persuading the general public of the wisdom of self restraint in the above matters have been equally ineffective to the solution of the above problems; therefore be it

RESOLVED, that the Arkansas Medical Society consider the development of an ongoing program making it monetarily worthwhile to each motorist to properly use seatbelts for all passengers in each car through persuading the insurance carriers to offer discounted personal injury rates to policy holders who use seatbelts consistently.

Since such carriers will, of course, find a significant reduction in personal injury payouts and in addition will reap the benefit of a more selective and reponsible clientele, they will find it possible to reduce rates due to such savings and thus be more attractive to the general public for coverage and

RESOLVED that the Arkansas Medical Society consider similar types of programs in the fields of drunken driving, drug abuse and other forms of human behavior which have gone unchecked despite legislative efforts.

Committee on Medical Legislation

James R. Weber, M.D., Chairman

As this report is being written, the Arkansas General Assembly is in session and several issues affecting the practice of medicine in Arkansas are being considered. Mr. Mike Mitchell, our general counsel, Ken LaMastus, David Wroten and I are spending a great deal of time at the Capitol.

Our predictions that this would be a very busy session are coming true. We have already been faced with many issues that affect the practice of medicine. Included are bills that pertain to optometrists using drugs and surgery as well as issues brought forth from other limited practitioners to expand their practice.

This session appears to be an extremely difficult one for many legislators due to the shortage of money. We anticipate there will be some tax increases but there will be very little increase in the Medicaid budget.

This session has already seen more physicians involved in contacting their legislators and we can see the impact of this on the work that we are doing at the Capitol. I would like to personally thank all those physicians who are making an effort to help us with the issues during this session.

It has become very apparent during this session that physicians in Arkansas are going to have to become more involved with the political process both in contributing money and working in legislators' campaigns. We can almost pick out the counties where physicians are politically active by watching the legislators who vote on the side of medicine.

I urge you, if you have not already done so, to make your contributions to the Arkansas Medical Society State Legislative Fund. This fund is used to make campaign contributions to candidates during elections. Many of you know Arkansas Medical Society dues cannot be used for political contributions. This is why we established the State Legislative Fund and the Arkansas Medical Society Political Action Committee (PAC). PAC contributes to congressional races and is regulated by the federal election laws pertaining to campaign contributions. The State

Legislative Fund is used to make contributions for legislative in Arkansas and is not subject to federal regulations.

By the time of this year's annual convention, the legislative session will hopefully have become history. For those of you who take time to contact your legislators in opposition or support of issues in which the Medical Society has an interest, we thank you. Your contact with your legislator back home has much more impact than the Society's lobbying efforts at the Capitol. We urge you to become involved in this process.

I would like to personally thank those physicians who are taking their time to serve as "Doctor of the Day" at the Capitol. They contribute a day of their valuable time to provide medical services, a good public relations gesture for individual physicians and the Society.

I am taking the liberty to print the names of the contributors to the State Legislative Fund. I feel they are due the recognition for their contribution. If you are not a contributor we urge you to become one. Although this legislative session is going to be a tough one, we are sure that future sessions will be as tough. The only thing that will help to protect medicine is the active involvement of physicians.

Listed below are the contributors to the Arkansas Medical Society State Legislative Fund for 1986:

Contributors to State Legislative Fund (1986)

Arkansas County
Hoy Speer
Marolyn Speer
John M. Hestir

Baxter County
Thomas E. Knox
Michael Moody
Joe Tullis
Jack C. Wilson

Benton County
C. William Hof
Glennon Horner
Richard Pearson
M. C. Reese

Cleburne County
Thomas Eans

Craighead-Poinsett County
Clarence Gossett
Bruce Jones
B. E. McKee
James Sanders
Joe Stallings
Don Vollman
Robert Yates

Crawford County
Millard Edds

Crittenden County
Milton D. Deneke
Guy J. L'Heurex
Glen Schoettle
C. Herbert Taylor

Dallas County
Don Howard

Drew County
Paul Wallick

Garland County
Robert Borg
John Brunner
James F. Burton
Burton-Eisele Clinic
W. Martin Eisele
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Edwin Harper
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J. D. Bonner
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Asa Crow
Len Kemp
J. Larry Lawson
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Hempstead County
C. Lynn Harris

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Robert Gullett
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Thomas E. Townsend

Lawrence County
Ralph F. Joseph
Ted Lancaster

Little River County
James D. Armstrong

Miller County
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Mississippi County
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Merrill J. Osborne
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P. Vasudevan

Pulaski County
John H. Adametz
Maxwell Baldwin
David W. Bevans
Raymond Biondo
Jay Brainard
Joseph Buchman
Amail Chudy
Howard Cockrill
Paul J. Cornell
Joe Crow
Glenn Dalyrmple
David Dean
A. S. Fitzhugh
Wilbur Giles
W. Clyde Glover
Henry Good
Frederick Guggenheim
James Hagler
A. David Hall
Richard Hayes
Jerry Holton
Dale Johnson
W. Ray Jouett
W. Payton Kolb
John Lane
Richard H. Martin
Frank Morgan
William Morton
David Newbern
Joseph Norton
J. Mayne Parker
John E. Peters
Jerry Potts
Jerry Prather
Gene Reid
Charles H. Rodgers
F. Hampton Roy
Ben N. Saltzman
James Sloan
Purcell Smith
David Taylor
Joseph Ward
James R. Weber
F. M. Westerfield
Ronald Williams
G. Doyne Williams

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David Fried

Pope County
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Donald Dunn
William W. Galloway
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Frank M. Lawrence
D. H. Lowrey
Joe H. Lyford
Robert May
Millard-Henry Clinic
Don C. Riley
E. P. Turner
David M. Williams

Saline County
Dan Gardner
Marvin N. Kirk

St. Francis County
Ralph Bard
Samuel A. McGuire

Sebastian County
Jimmy G. Atkins
Robert Chester
William Holman
A. S. Koenig
Ken Lilly
Franklin Lockwood
C. C. Long
Robert Miller
R. Wendell Ross
Robert Sherman
William Sherrill
Rowland Vernon
Munir Zufari

Tri-County
Meryl Grasse

Union County
W. John Giller
Diana Jucus
Joe Turnbow
Srini Vasan

Washington County
James Cherry
Grady Fincher
Martha Fincher
Peter Heinzelmann
William Martin
J. E. McDonald
John Power
E. Mitchell Singleton

White County
Hugh Edwards
John C. Henderson
James R. McCoy
Ed Miedema
Searcy Medical Center
Sidney Tate

Yell County
Damon G. H. Martin

Arkansas Medical Society Political Action Committee

Charles H. Rodgers, M.D., Chairman

The Arkansas Medical Society Political Action Committee (AMS-PAC) had a good 1986 election year. PAC policy is to aid those candidates who we determined, to the best of our ability, will most consistently be sympathetic and pro-active to the needs of the medical profession. Every attempt is made to be nonpartisan when selecting candidates to support. We must try to identify those lawmakers who have been receptive to our problems and given them support, and identify those candidates who have no record but might be sympathetic to our cause.

This year the Arkansas Medical Society, together with the American Medical Political Action Committee (AMPAC), contributed more than $33,000 to Arkansas candidates. We strongly believe that we are beginning to see a new awareness among physicians in our state to become politically active and get involved in the legislative process. The PAC asks you to contribute and support our goals of supporting candidates who we believe will in turn support us, and we are sorry if we do not please everyone in our choices. We ask that you, as an individual, continue to give support to the candidates of your choice and be an effective grass roots politician.

This year we had some organizational changes with the move of the Little Rock office and we are pleased that Mr. David Wroten of the Arkansas Medical Society is serving as liaison to the Political Action Committee. Mr. Wroten has shown much enthusiasm in his responsibility and we believe he will infuse many new ideas into the organization.

If you have an interest in serving on this very important board, please contact Mr. David Wroten of the Arkansas Medical Society so that your name can be considered.

Contributors to Arkansas Medical Society Political Action Committee 1986

Arkansas County
Noble B. Daniel
*John M. Hestir
*Carl Northcutt
*Hoy B. Speer
*Dennis Yelvington

Baxter County
Daniel Chock
Helga E. Chock
David Ducker
James C. Dunbar
*Stacey Johnson
*Peter A. MacKercher
*Mrs. Ellen MacKercher
*Michael Moody
*David Roberts
*Jack Wilson

Benton County
*James H. Arkins
D. L. Cohagan
*Glennon A. Horner
*Richard Pearson
*Michael R. Platt
*M. C. Reese
Jan Turley

Boone County
J. Brad Carter
Thomas R. Hoberock
*Robert Langston
Alice R. Laule
*Mahlon Maris
Victor Rozeboom
Mrs. Victor A. Rozeboom
*Rhys A. Williams

Carroll County
*Dan Bell
*Oliver Wallace

Chicot County
*John P. Burge

Clark County
Allen Rozzell
Mrs. Allen Rozzell

Cleburne County
Michael Barnett
Thomas Eans

Craighead-Poinsett County
Robert C. Atkinson
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*A. H. Rusher, Jr.
*James Sanders
*Joe H. Stallings
Troy Vines
*Don B. Vollman
*Bill Waldrip

Crawford County
Millard C. Edds
Mrs. Millard Edds

Crittenden County
*Milton D. Deneke
*Trent P. Pierce
C. Herbert Taylor
*Mrs. Ramona B. Taylor
G. E. Tullis

Dallas County
*John Delamore
*Don G. Howard

Desha County
Peter Go

Drew County
*Paul Wallick
Harold Wilson

Franklin County
William Roberts

Garland County
Richard Gardial
*James L. Gardner
Walter G. Klugh
*Bhaktan Krishnan
Robert McCrary, Jr.
Mrs. Robert McCrary, Jr.
*Deno Pappas
Raymond E. Peeples
*Gene Shelby
*Bruce Smith
*Al Thomas

Grant County
*Jack M. Irvin

Greene-Clay County
J. Darrell Bonner
Mrs. J. Darrell Bonner
*Roger E. Cagle
*George H. Collier
*Asa A. Crow
*Marion Hazzard
*George A. Hobby
*B. W. Jones
*C. L. Kemp
*J. Larry Lawson
*Richard O. Martin
*Jack G. Richmond
*John R. Sellars
*Mack Shotts
*Dwight Williams

Hot Spring County
C. R. Ellis
Mrs. C. R. Ellis

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*J. D. Allen
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*Lackey Moody
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*R. L. McDonald
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R. D. Tanner
*T. E. Townsend
*Walter J. Wilkins

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*Craig Ditsch

Lawrence County
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*Walter C. Barnes
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*Jon D. Hall
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Mrs. C. Lynn Harris
*Jack W. Harrison
*Frederick Joyce
*Paul D. Meredith
L. M. Peebles
*Jack L. Royal

Mississippi County
Harvey Clewans
Eldon Fairley
Sybil Hart
*C. G. Melton
*Merrill J. Osborne
Mrs. Merrill J. Osborne
Stephen R. Rauls
Mrs. Stephen R. Rauls
Hunter Sims, Jr.
Mrs. Hunter Sims, Jr.

Monroe County
*Benedict Pupsta

Nevada County
*Michael Young

Phillips County
*Robert D. Miller
*Francis M. Patton
*P. Vasudevan

Polk County
*David Fried

Pope County
*James M. Kolb
*D. H. Lowery
*Kenneth New
Don Riley
*Stanley D. Teeter
*Finley P. Turner
*Charles F. Wilkins, Jr.

Pulaski County
*Joe Abrams
*Les Anderson
Carlos A. Araoz
Mrs. Carlos A. Araoz
James Aronson
F. A. Bennett
*Raymond V. Biondo
*Jack Blackshear
Jay O. Brainard
Stanley K. Browning
Joseph A. Buchman
Joseph D. Calhoun
*Kelsy J. Caplinger
John T. Chears
*Amail Chudy
Richard Clark
Joe Colclasure
*Paul Cornell
David M. Dean

*Warren Douglas
Mrs. [illegible] Douglas
[illegible]
*[illegible] Glover
[illegible] L. Hagler
[illegible] Harold Harger
*Ernest Harper
*T. Stuart Harris
William Hayden
Harold Hedges
*Charles Henry
Jim C. Kizziar
*W. Payton Kolb
Mrs. W. Payton Kolb
*Gregory Krulin
Bruce Leipzig
Virgle Lyons, Jr.
John A. Mallory
*R. Jerry Mann
Richard H. Martin
C. N. McKinney
James R. McNair
Donald Meacham
Richard M. Nestrud
James Nolen
Mrs. James Nolen
Joseph Norton
Terrence Oddson
J. Mayne Parker
Mrs. J. Mayne Parker
*Clifton Parnell
Norton A. Pope
William Riley
Paul F. Robinson
*Charles H. Rodgers
Mrs. Charles H. Rodgers
*F. H. Roy
Ben N. Saltzman
Mrs. Ben N. Saltzman
*Bruce Schratz
*Jan W. Scruggs
C. Kemp Skokos
*Fay M. Sloan
*Purcell Smith
R. Barry Sorrells
*Jack J. Sternberg
*J. Samir Sulieman
*Samuel Thompson
Jyi-Ming Tseng
*Steven Tucker
Joseph P. Ward
*Robert G. Valentine
*Mrs. Robert G. Valentine
F. M. Westerfield, Jr.
David Wilkes
*James R. Weber
Mrs. James R. Weber
*Thomas Worthan

St. Francis County
Ralph M. Bard

Sebastian County
*A. Calvin Bradford
*Calvin R. Cassady
*Robert Chester
Srini Vasan
*George Warren
Larkin M. Wilson

Washington County
Jack Alston
C. Stanley Applegate
Mrs. Annabel Applegate
*Spencer Albright, III
James A. Arnold
Craig J. Brown
Wade W. Burnside
David A. Davis
*Robert W. Dow
*Keith Hackler
Ben Hall
John Kendrick
J. E. McDonald
Mrs. Judy McDonald
*William C. Mills
J. Warren Murry
Lee B. Parker
Mrs. Carol L. Patterson
John R. Power
*Dan M. Riner
*Joe H. Dorzab
David W. Duffner
Homer Ellis
D. Bruce Glover
J. T. Howell
*R. P. Hughes, Jr.
*Peter J. Irwin
*A. S. Koenig, Jr.
*A. Samuel Koenig, III
Kemal Kutait
Mrs. Kemal E. Kutait
*Ken Lilly
Mrs. Ken Lilly
Frank M. Lockwood
S. R. McEwen
*Taylor Prewitt
*Wendell Ross
Robert Sherman
*Rowland P. Vernon
Edwin Whiteside

Union County
*Kenneth R. Duzan
*W. John Giller
Diana Jucas
J. S. McKinney
*Robert L. Parkman
Richard Pillsbury
Vance Strange

White County
*Dan Davidson
Hugh Edwards
*E. A. Joseph
*Robert Lowery
*Lloyd Norris
*Larry Weathers

*Sustaining Members

Committee on Position Papers
James M. Kolb, Jr., M.D., Chairman

During the past year the Committee on Position Papers revised the position paper "Professional Advertising by Physicians" to reflect the United States Supreme Court's ruling on the tight restrictions placed on professional advertising. Advertising should be solely to bring pertinent information to the public, and physicians utilizing advertising in their practices should be aware of the concerns and attitudes of their peers.

Because of the increased spread of AIDS, the Committee has also developed a position paper supporting educational efforts directed at all levels of the education system and general public to make our citizens more aware of the global implication and extent of this health problem.

I would like to personally thank the members of the Committee on Position Papers for their expertise and time spent in developing these two papers over the past year. These two papers will be referred to a reference committee and will be considered by the House of Delegates during the 1987 Annual Session.

Committee on Public Health
Don G. Howard, M.D., Chairman

The Committee on Public Health met on November 23, 1986. Attending the meeting were Don Howard, M.D., Chairman, John A. Hall, M.D., and Ben Saltzman, M.D.

The Committee recommended the following:

1. Approval of the Health Department's recommendation to levy fees for services that had previously been free. Due to the recent deficiency of monies available to the Health Department, they are unable to provide these services. We feel these services are needed but certainly the fees could be assessed to the user.
2. Continued use of an agency to assess the need of health care facilities in the present form.
3. Legislation on mandatory seatbelts be revised and presented to the legislative body for approval.
4. The Lay Midwife Program be conducted on its present level but recommended that nurse midwives be provided to all counties and the Nurse Midwife Program be expanded to provide obstetrical care to the medically indigent.
5. Legislation be provided to limit markedly the utilization of all-terrain vehicles by persons who do not have permits or licenses to utilize these machines.
6. The immunization program be continued and enforced as a requirement to attend public schools.
7. The AIDS education program be continued and extended to schools and civic groups.
8. The Arkansas Medical Society approve and endorse the Rural Health Conference, especially since this is on a no-cost basis.
9. The indigent care cost for medical services be utilized by some agency or group of agencies which can provide this service.

Committee on Public Relations Report
Milton D. Deneke, M.D., Chairman

The Society's Public Relations Committee has had a somewhat quiet year due to the decrease in the Society's staff and the relocation of its offices from Fort Smith to Little Rock. Now that the move is complete and the

Society's staff has settled in, we hope to get back on track in the coming year.

At the 1986 Annual Session, we conducted a public relations project designed to address the public fear of getting AIDS while donating blood. Working along with the Annual Session Program Committee and the Arkansas Chapter of the American Red Cross, we conducted a physician blood drive during the annual meeting. It was felt that if the public could see physicians and their families donating blood it would help restore the public's confidence in blood donations and show the medical community's support for a safe blood supply. Society members were notified two to three months prior to the meeting and as often as possible through the Society's newsletter about the project. News releases were mailed across the state as well as notices from the American Red Cross. On the first day of the Annual Session a news conference was held in front of the bloodmobile and remarks were made by Dr. Sybil Hart, the Society's spokesperson for the project, Dr. John Dawson of the AMA's Board of Trustees and Dr. Clinton Texter, Medical Director of the Arkansas Chapter of the American Red Cross. Representatives from the Little Rock television stations and both newspapers were present and covered the news conference as well as actual donations in the bloodmobile. I should point out that although we got our message across to the public and received very good publicity through the local media, the Society members did not respond very well. There were 350 physician attendees at the meeting but only 22 pints of blood were donated. Several of those were from the exhibitors.

The 1986 Shuffield Award was presented during the Inaugural Ceremonies during the 1986 annual meeting in Little Rock. The recipient of the award was Mrs. Rebecca Rasberry of Jonesboro, a reporter for the *Jonesboro Sun*. Mrs. Rasberry has taken a special interest in health care issues and has spent a great deal of her time reporting on medical issues.

The Committee is currently investigating the possibility of developing a video health fair. This project would involve working with television stations to conduct a one-day health information program. Three to four hours of taped programming on such things as advances in medical technology would be spread out over a one-day period. Physician volunteers throughout the state would staff telephone banks to answer general medical questions from the public. This project has been done in one or two other states and was very successful. One county medical society in Florida has done this project for the last two years. Last year they reported over 3,500 telephone calls from the public and involved over 150 physicians to answer the calls. If this project appears to be feasible, it would take a commitment on the part of the Society's members in order to be successful. Hopefully, we will be able to report on this during the annual meeting.

Annual Session Report
Wendell Ross, M.D., Chairman

With the departing of Leah Richmond, this year's Annual Session Committee approached its task with uncertainty and misgivings. In the course of our organizational meeting on September 14, 1986, in Little Rock those uncertainties and misgivings vanished when we realized that Ms. Peggy Pryor Cryer, our administrative services director, was more than capable to plan an Annual Session.

The following subcommittee chairmen were appointed: John Crenshaw, Pine Bluff — Memorial Service; Dr. Jack Blackshear, Little Rock — Socioeconomic Seminar; Dr. Glen Baker, Little Rock and Dr. Ronald Bracken, Hot Springs — Scientific Program; Dr. Murray Harris, Fayetteville — Speaker Host; Dr. Richard Martin, Little Rock — Sports Function; Dr. Glen Baker, Little Rock — Scientific Exhibits; Dr. Charles Rodgers, Little Rock — Political Luncheon Speaker; and Mrs. Danny Proffitt, Fayetteville — Social Committee.

It was decided that our meeting would offer more continuing medical education credit and concurrent sessions. The socioeconomic seminar will be on Thursday afternoon and the scientific program will begin on Friday morning and extend through Sunday. It was hoped that, by increasing the registration fee and pharmaceutical company displays, the increasing cost of the Annual Session to the Society could be substantially decreased in the coming years.

With those goals in mind, a questionnaire was mailed to all Society members. The purpose of the questionnaire was to learn their wishes and convince them that their input in the scientific program was wanted. The results of that questionnaire is available in Ms. Cryer's office and should be utilized by future program committees.

The committee met again on October 30 in Russellville and on November 23 in North Little Rock to discuss and refine the program. The remainder of the committee's work was done by individuals in small subcommittees.

Dr. Glen Baker should be singled out and thanked for his successful efforts in putting together an excellent scientific program addressing the immediate medical problems and demonstrating that "everything in medicine is not black or white."

The completed program, planned for your information and enjoyment, is printed elsewhere in this journal and the committee is available to make the Annual Session a positive experience for you.

Committee on Medicine and Religion
Fred O. Henker, III, M.D., Chairman

The Committee planned and conducted the Annual Prayer Breakfast in connection with the 1986 annual meeting of the Arkansas Medical Society in Little Rock. Solo music was provided by Mrs. Marilyn Simmons. Devotional was delivered by Dr. Fred Henker.

The Committee is considering a physician/minister one day symposium but this is being withheld until a suitable keynote speaker is found.

Plans are now underway for a 1987 Prayer Breakfast.

Arkansas Medical Society Pension Plan Board of Trustees
Charles Logan, M.D., Chairman

The Pension Plan for the employees of the Arkansas Medical Society is invested with Worthen Bank and Trust Company in Little Rock. The net return for the account for 1986 was 8.86%.

Due to the relocation of the Society's headquarters from Fort Smith to Little Rock, eight employees of the Fort Smith office terminated their employment. As of December 31, 1986, distributions had been made to four of those employees, making a total number of current participants twelve. The other four Fort Smith employees are expected to withdraw their funds after the first of the year.

With the advice of the Society's legal counsel, the Board made housekeeping corrections in the pension plan which were necessary to remain in compliance with the IRS code. It is anticipated that further changes may be required to comply with the new tax law which will be implemented in the next year.

Fifth Councilor District
George W. Warren, M.D., Councilor

The Fifth Councilor District meeting was held on January 21, 1987, at the El Dorado Country Club. Guest speakers at the meeting were Dr. Jerry Quirk, Professor of the Obstetric-Gynecology Department of the University of Arkansas Medical Center, who spoke on dealing with the philosophy and origin of the obstetrical malpractice crisis, and Dr. Deborah Bryant, a pediatrician with the Arkansas Department of Health, who discussed the development of maternal and child health as it relates to Medicaid reimbursement.

In the business session, Dr. George Warren of Smackover was re-elected as councilman for the Fifth Councilor District for another two-year term.

Report of the Medical Service Review Committee
Charles H. Rodgers, M.D., Chairman

The Medical Service Review Committee is a committee of the Council of the Arkansas Medical Society and acts as an advisory committee to Arkansas Blue Cross Blue Shield to assist in adjudicating claims of an unusual nature, either in services rendered or fees charged. The Committee meets on a regular monthly basis to review these claims and is made up of representatives from most of the specialties of the Arkansas Medical Society.

In addition, the Medical Service Review Committee, at the request of the Council of the Arkansas Medical Society, has been reviewing selected cases which have been denied by the Peer Review Organization of the Arkansas Foundation for Medical Care. Any member of the Arkansas Medical Society who has had a case denied by the Arkansas Foundation for Medical Care and feels that this denial is unfair, may forward this case to the Arkansas Medical Society (address to Ken LaMastus, Executive Vice President). Mr. LaMastus will assign these cases to the appropriate specialty member on the Committee and the member will review this case. If the reviewing member feels the denial is unwarranted, he may submit the case for review to the entire membership of the Medical Service Review Committee. This is a retrospective review and has no bearing on the appeal process. The Medical Service Review Committee will discuss the case presented by the appropriate specialty member and will either agree with the review of the PRO or disagree with the denial, and list the reasons for disagreeing with the denial. This decision is passed on in letter form to the Arkansas Foundation for Medical Care and its Director has assured us that he reviews our decision and passes this information on to his reviewing member.

It is the desire of the Medical Service Review Committee and the Council of the Arkansas Medical Society that the decision on these reviews will have some bearing on the decisions made by the review team of the Arkansas Foundation of Medical Care.

It is hoped that this effort by the Medical Service Review Committee and Arkansas Medical Society will send a message to the Foundation and reviewing member that the Medical Society is very concerned about its members and that we want them to get the fairest, most competent review possible.

Professional Relations Committee for Eighth Councilor District
James R. Rasch, M.D., Chairman

The Eighth Councilor District of the Professional Relations Committee has handled several complaints over the year. None of these has resulted in any litigation and were satisfactorily handled. This approach continues to be an effective method of arbitration in cases of either misunderstanding or unhappiness between patients and physicians. By function of this committee we believe significant litigation is averted.

Report of the Council
J. Larry Lawson, M.D., Chairman

The Council of the Arkansas Medical Society met at 12:00 on Sunday, June 29, 1986, at the Holiday Inn West in Little Rock and the following business was transacted:

1. The minutes of the Council meetings during the Annual Session were approved with the following

correction. Council minutes from Saturday, April 19, item #7, change the word Medicare to Medicaid.

2. The minutes from the May 28 Executive Committee meeting were approved as follows:
   The Executive Committee met at the Coachman's Inn in Little Rock on Wednesday, May 28, 1986, and the following business was transacted.
   (1) Mr. Don Phillips, Director of Pharmacy Services, Arkansas Department of Health, discussed the problem which the Health Department is having concerning adequate funding to perform investigations of prescription abuse by physicians.
   (2) Mr. Phillips reported that there is a conflict in Arkansas law and federal law pertaining to the drug Delta 9-THC, which is a marijuana derivative and he indicated the need to change the law in the next legislative session.
   (3) The Executive Committee recommended that Dr. Fitzhugh and Mr. Butler be asked to attend the next meeting of the Executive Committee in June to discuss the Health Department's funding problem as it relates to the prescription abuse investigations.
   (4) Discussed the appointment of a new editor for the *Journal*. The Executive Committee is to meet with one candidate prior to the next Council meeting on June 29.
   (5) Approved out-of-state travel for Ken LaMastus and one medical student representative for the American Medical Association's June meeting in Chicago.
   (6) Authorized Mr. LaMastus to look at alternate dates for the Arkansas Medical Society's Annual Session in 1988.
   (7) Dr. Lilly asked the Executive Committee's permission to have a "President's Page" in some issues of *The Journal of the Arkansas Medical Society*.
3. Mitzi Washington, representing the Arkansas Medical Society-Medical Student Section, reported on her recent trip to the AMA meeting in Chicago where the conference theme was "Hunger in America."
4. The Council voted to send a letter to the Governor and state legislators encouraging them to revoke the state's Certificate of Need Law. The Council also asked that the Governor notify the federal government that Arkansas no longer desires to participate in the Section 11-22 Review Program under the Medicare law.
5. Charles Rodgers reported on the campaign contributions made by AMS-PAC and AMPAC for 1986.
6. Charles Rodgers discussed a request concerning representation on the Medical Services Review Committee by the Arkansas Society of Plastic and Reconstructive Surgeons. The Council voted to have a representative from the Plastic and Reconstructive Surgeons come before the Council to explain the problem from their view.
7. James Weber reported on three recommendations from Sebastian County Medical Society concerning: 1) the inequity of the PRO appeal procedure, 2) recommendation that written yes or no ballots be required on all ballot issues, and 3) written ballots be required in the election of Directors to the Arkansas Foundation for Medical Care Board.
8. Joe Verser reported on his recent trip to the AMA convention.
9. The Council voted that Charles Wilkins from Russellville fill the unexpired term of Ray Jouett on the Medical Education Foundation for Arkansas Board. Dr. Wilkins' term will expire in 1989.
10. The Council voted to give a scholarship in the amount of $360 to Med-Camp of Arkansas for the 1986 session.
11. The Council voted to promote David Wroten from Professional Relations Coordinator to Assistant Executive Vice President, effective immediately.
12. Executive Vice President Ken LaMastus expressed his appreciation for the new AMS staff and commended them for the smoothness of a difficult transition.
13. Chairman Lawson discussed the different problems in selecting an editor for the *The Journal of the Arkansas Medical Society*.
14. The Council met in Executive Session to discuss the updates on the Schaeffer lawsuit.

The Council met at 12:00 noon on Sunday, September 14, 1986, at the Holiday Inn West in Little Rock. The following business was transacted:

1. The minutes of the June 29, 1986, Council and Executive Session meetings were approved.
2. The minutes of the Executive Meeting at the Coachman's Inn on June 25, 1986, in Little Rock were approved as follows:
   (1) Mr. Tom Butler, Director of Pharmacy Services, Arkansas Department of Health, reported to the Executive Committee on the financial status of the Arkansas Department of Health. He indicated that shortfall funding cutbacks would amount to $2.3 million for the Department of Health; and out of their budget, 83% is allocated to salaries. He indicated they are considering a minimum $2 charge for all services provided by the Department of Health. The Health Department is considering possible ways to cut back on expenditures. For this reason, they are looking at the Division of Pharmacy Services drug investigations by professionals to determine if there is some way money could be generated to maintain the program at an adequate level.

The two possible ways of raising funds to continue the investigative capabilities of the Health Department were a fee for obtaining a permit to write controlled substances or using duplicate prescriptions and having them purchased from the Health Department. The general feeling of the Executive Committee was that the duplicate prescriptions would mean more paper shuffling and reporting requirements for the physicians' offices and was not a very viable alternative. The consensus was that a fee in the neighborhood of $25 for the right to issue prescriptions for controlled substances was a more feasible alternative.

(2) The Executive Committee discussed Health Care Plus', a Little Rock based HMO, desire to locate in the Arkansas Medical Society Building.

(3) Mr. LaMastus provided a letter to the Executive Committee from the post office indicating their failure to renew our third-class bulk rate non-profit status but indicated it would not affect *The Journal of the Arkansas Medical Society* mailing status.

(4) The Executive Committee decided to contribute $360 to Med-Camps to sponsor two handicapped children at the camp.

(5) A letter from Senator Knox Nelson asking the Society to come up with ways to make medical services more available to the indigent population was reviewed.

(6) The Executive Committee gave Mr. LaMastus permission to obtain insurance for trustees of the Society Pension Plan. The cost would be $75 per year and would provide coverage in case a suit was brought claiming funds were not invested in a prudent manner.

3. Chairman Lawson noted two changes to be made before approving the Executive Committee minutes of August 27, 1986. 1) Add the words "recommend to the Council" to item #10, line three, to read, "was decided to recommend to the Council that they notify Blue Cross Blue Shield that the Society prefers this type of insurance not be included in the coverage because of the costs." 2) Item #11 should have "recommend to the Council" injected after the word decided and November 22 be replaced with November 23. Item #11 should read, "The committee decided to recommend to the Council that the winter meeting should be held on November 23, 1986, in Little Rock." Both corrections were approved and the minutes are as follows:

The following business was transacted:

(1) Two candidates for the position of the *Journal* editor were interviewed.

(2) The Executive Committee asked that Dr. Robert F. McCrary of Hot Springs be invited to meet with the Executive Committee in September after reviewing his information concerning capitation payments from Medicare for nephrologists' services to End-Stage Renal Disease patients.

(3) Approved out-of-state travel for three staff people to attend the State Medical Journal Bureau Conference in Austin, Texas, on September 26 and 27.

(4) Reviewed a request from the U. S. Chamber of Commerce for assistance in tort reform activities on the federal level. The requested contribution was for $650. The Executive Committee decided to make no contribution.

(5) Reviewed a copy of the financial statement for the first six months of 1986.

(6) Approved out-of-state travel for Ken LaMastus to attend the State Medical Society Chief Executive Officers meeting in Albuquerque, New Mexico, October 25-27.

(7) Approved out-of-state travel for Ken LaMastus and Mike Mitchell to attend the Southeastern Medical Socioeconomic Symposium in Williamsburg, Virginia, October 23 and 24.

(8) Referred to the Council the question of clarification of the Bylaws pertaining to dues exempt new members. It was the opinion of the Executive Committee that dues exempt status should apply only to those in their first year of practice. It appears that the present wording of the Bylaws indicates dues exempt status applies to those in their first year of practice in Arkansas.

(9) Referred to the Council the question as to whether the Society should develop a booklet to sell for $20 to $25 each to physicians explaining the laws of Arkansas as they pertain to medicine. The cost would be about $7,000, plus printing costs.

(10) The Committee decided because of the cost, not to include the Waiver of Acceptance of Speech and Hearing Impaired Coverage for members of the Society's health insurance plan.

(11) The Committee decided the winter meeting should be held on November 23, 1986, in Little Rock.

4. The Council voted to reconsider the action taken by the Executive Committee on August 27 and to mail a $650 contribution to the U. S. Chamber of Commerce accompanied by a letter conveying their support but also expressing dissatisfaction on previous actions.

5. Charles Rodgers reported on the Medicaid Drug Formulary Committee.

6. The Council voted to approve the concept of the Indigent Care Plan as outlined by Asa Crow.

7. The Council voted to endorse Amendment 67.
8. James Weber reported to the Council the results of the letter mailed to the membership concerning the claims processing and payment problems with EDS. The Council voted for Dr. Weber to schedule a conference with the Governor to outline the problems with EDS.
9. The Council voted to sponsor the film series "Managing Our Miracles" on AETN if funding could be obtained from the regional clinics.
10. Morriss Henry asked for support from the Society to help stop the optometrists' legislation which would allow them to prescribe therapeutic drugs.
11. The Council voted to accept three names from the Arkansas Society of Plastic and Reconstructive Surgeons for consideration at the next Council meeting to be applicable through this year to serve on the MSRC.
12. Chairman Lawson appointed Amail Chudy, Lloyd Langston, and W. P. Phillips to the Constitution and Bylaws ad hoc Review Committee to review the Constitution and Bylaws and make recommendations for possible changes.
13. The Council voted to accept the charter for the new Arkansas Medical Society Resident Physician Section.
14. The Council voted to ask the Constitution and Bylaws ad hoc Review Committee to study Section 3, Item C, of Chapter 1 of the Bylaws and recommend any necessary changes to clarify the intent of this clause.

The Council met on Sunday, November 23, 1986, at the Riverfront Hilton in conjunction with the Arkansas Medical Society Winter Meeting. The following business was transacted:

1. The minutes of the Executive Committee meeting on September 24 were approved as follows.
   (1) Robert McCrary, Jr., of Hot Springs, discussed the problem being encountered by the nephrologists in Arkansas. Nephrologists treating End-Stage Renal Disease patients would soon be paid on a capitation basis by Medicare. The nephrologists will be the lowest paid in the nation. The Executive Committee indicated that the AMS staff would attempt to get in touch with our congressional delegation to see if some changes could be made regarding this situation.
   (2) The Executive Committee voted to recommend to the Council that Dr. Alfred Kahn, Jr., be named Editor Emeritus of *The Journal of the Arkansas Medical Society*.
   (3) The Executive Committee approved out-of-state travel for David Wroten to attend the National Communications Conference held by the American Medical Association in Chicago, October 23-25, 1986.
   (4) The Executive Committee recommended that the Society's Hospital Committee review the possible need for establishing a Hospital Medical Staff Section of the Arkansas Medical Society.
   (5) Dr. James Weber discussed the problems with EDS pertaining to the processing of Medicaid claims and indicated plans to meet with representatives from the Governor's office and EDS. Dr. Weber also recommended that a letter be written to Medicaid and the Governor's office recommending that some injectibles be paid for under the Medicaid program. Dr. Weber was especially concerned about injectibles for children.
2. The minutes of the November 5, 1986, Executive Committee meeting were approved as follows:
   (1) The Executive Committee requested that Mr. LaMastus write a letter to Governor Clinton and all members of the legislature expressing the concerns over changes taking place in the Medicaid program in the name of cost containment. Also discussed were the problems with EDS and possible changes in the Medicaid drug program which would require mandatory generics.
   (2) Approved out-of-state travel for David Wroten to attend the AMA Interim Meeting in Las Vegas, December 7-10, 1986. Travel approval was also given for one medical student and one resident from the new Resident Physician Section.
   (3) Approved out-of-state travel for Ken LaMastus to attend a special called meeting of state certified executive officers in Chicago, December 13-15, 1986.
3. James Kolb, Chairman of the Committee on Position Papers, presented a position paper on "Acquired Immune Deficiency Syndrome (AIDS)." Dr. Kolb presented a second paper on "Professional Advertising by Physicians," which was an update of a previous paper.
4. Mr. Mike Mitchell, General Counsel, explained housekeeping changes made in an amendment to the Society's pension plan required by the IRS. The Council recommended approval, contingent upon review and final adoption by the Pension Board of Trustees.
5. Chairman Lawson appointed a Committee on Membership Benefits to review benefits for the members and sources for non-dues income. Committee members are F. Hampton Roy, J. Floyd Kyser, Hugh F. Bennett, Glen Baker, and John Hestir acting as chairman.
6. Mitchell Singleton, President of the Washington County Medical Society, presented a resolution to the Council which asked for support of the Arkansas

Medical Society in asking the General Assembly to reject efforts by optometry to legislate for itself a medical license.

7. Harry Ward, Chancellor of the University of Arkansas for Medical Sciences, reported that I. Dodd Wilson had been appointed as the new Dean of the College of Medicine.
8. Harry Ward reported that there will be no legislative effort to raise the medical school enrollment to 160 students.
9. Harry Ward gave an update on the committee established to review nurse midwifery and lay midwifery. Committee members are Dr. Quirk of the University of Arkansas Medical School; Dr. Pat Phillips, Arkansas Medical Society; Mary Lou Bond, College of Nursing; Dr. Sandra Moody, Arkansas State Nursing Association; and Dr. Tom Hania, Arkansas Department of Health.
10. A. E. Andrews introduced Dr. Jim Sammons, Executive Vice President of the American Medical Association.
11. Lewis Allen, President of the Tri-County Medical Society, discussed the problems of professional liability insurance and how one insurance company requires hospitals they insure to have all physicians on their staff covered by professional liability insurance.
12. The Council voted to rescind the action of the September 14 vote and leave all appointments as they stand today and consider new nominations for the Medical Services Review Board at the regular time during the Annual Session.
13. The Council voted to suspend the rules and receive a resolution from the Pulaski County Medical Society concerning the use of generic drugs.
14. The Council voted to pay the remaining $500.00 to AETN for the ten series program called, "Managing Our Miracles."
15. The Council went into Executive Session to discuss and vote on the 1987 Arkansas Medical Society budget.

Addendum to the Council Minutes Position Paper on Professional Advertising by Physicians

Traditionally, the individual states have regulated advertising by physicians and other professionals. Within the last several years, however, the U. S. Supreme Court has decided that overly tight restrictions on professional advertising impermissibly infringe upon the professional person's First Amendment right of freedom of speech. The Court has emphasized, however, that its holding does not mean that advertising cannot be regulated in any manner. The Court specifically stated that advertising which is false, deceptive or misleading is subject to restraint.

The definite trend in the state legislatures regarding professional advertising today is in line with the Supreme Court's emphasis on the importance of not restricting the dissemination of information which assures "informed and reliable decision-making" by the public.

Long-standing AMA policy on physician advertising, established and enunciated before the decision of the U. S. Supreme Court on this issue, provides that *there is no opposition to advertising* (including fee information), but only to solicitation based on false, deceptive and misleading advertising. Advertising in an appropriate fashion may provide useful information to the public.

Applicable Laws and Regulations

Act 708 of 1981 which was sponsored by the Arkansas Medical Society addresses the issue of advertising by physicians. The law classifies as "unprofessional conduct" the "soliciting patronage, or advertising for patronage in a false, fraudulent, deceptive or misleading manner, advertising the quality of medical services and advertising illegal procedures and practices". Section 2 of the law states: "It is hereby ascertained and declared that advertising by physicians should be conducted in a manner to uphold the integrity of the profession and to prevent exploitation of the ill or suffering persons of this State; . . . ."

Arkansas Medical Society Position

Advertising by physicians must be truthful, relevant and must be disseminated in an objective and understandable fashion. It should not appeal to fear and greed, should not be used to exploit patients or the public, should not include extravagant claims or cures or in any way appeal to the anxieties of the public.

The electronic media such as radio and television is discouraged because of the transitory nature of the communications, the inherit emphasis of style over substance and the difficulty of monitoring and enforcing compliance with the law and ethical standards.

The purpose of any advertising must be solely to bring pertinent information to the public. The law and ethical considerations relating to advertising by physicians do not proscribe advertising; they do, however, forbid the dissemination of false or misleading information.

Physicians utilizing advertising in their practices should be aware of the concerns and attitudes of their peers. Many physicians feel uncomfortable with some forms of physician advertising. If the forms of advertising are not in good taste or are judged by other physicians as not in good medical character, the result could be negative attitudes toward those sponsoring such advertising.

Position Paper on Acquired Immune Deficiency Syndrome (AIDS)

The name of the disorder (Acquired Immune Deficiency Syndrome) was adopted by the Centers for Disease Control of the United States Public Health Service.

The word "Acquired" was selected to indicate that the disorder is not hereditary, even though a child may be born with AIDS. Some types of immune deficiencies are hereditary.

Immune processes are chemical and cellular defense mechanisms which protect people from infectious organisms and against other types of agents which can invade the body. The word "Syndrome" implies that multiple factors which may not appear to be logically related make up a particular disorder. The word "Disease" probably was not selected because a disease can usually be defined more precisely than a syndrome. The manifestations of AIDS are numerous.

Strong evidence exists that AIDS is caused by a transmissable virus — a retrovirus of the human T cell lymphotropic family, type III, designated HTLV-III. Viruses other than HTLV-III may be involved secondarily in the development of AIDS, but not as primary causative agents.

Authorities have not proven whether the disorder has existed prior to the last few years. It may have occurred in areas of the world where its incidence was low enough to remain unnoticed by public health observers. AIDS is probably a new disorder, detectable by a medical means since about 1979. It was officially designated as a human disorder in 1981 by the United States Centers for Disease Control.

Evidence is strong that people may have the virus introduced into their bodies without actually developing the disease AIDS. It is apparent that some people can be infected by the virus temporarily and can escape the development of AIDS because their immune systems act effectively against the virus. A small percentage of people who are infected by the virus fail to activate their immune systems against the virus and they, therefore, can develop the complex of disorders which may be diagnosed as AIDS.

The HTLV-III virus has been isolated from human blood, semen, saliva, and tears. This disorder is considered by specialists who research and treat AIDS to be spread primarily by sexual contact, both between homosexual males and between heterosexual individuals who are actively infected by the virus. Spread of the virus can also result when an instrument such as a contaminated needle, as may be used by intravenous drug users, is used promptly by a non-infected individual for injection into himself or herself. Prior to the development of successful testing methods for donated blood used for transfusion or for extraction of certain therapeutic blood products, the virus may have been transmitted to a few uninfected persons during blood transfusion.

It is extremely important to point out the misconception of AIDS and donating blood. AIDS cannot be acquired by a person donating blood.

There is a laboratory test for the HTLV-III virus. A positive HTLV-III test means that the virus has, at one time or another, infected the person whose blood is being tested. The virus, however, may have been resisted successfully by the person being tested. The test shows that an "antibody" — an immune defense chemical mechanism — has been developed by the person being tested against the HTLV-III virus. Most people who show a positive HTLV-III test have apparently resisted the virus successfully but are capable of transmitting the virus to other persons. A few individuals with a positive HTLV-III test do, indeed, have AIDS and can transmit the virus to other people. In addition, some people with a positive HTLV-III test may not actually have detectable AIDS, but can transmit the virus to other people.

There is currently no vaccine available to prevent AIDS. Numerous research teams are working toward the development of a protective vaccine. In the event that a vaccine should be developed, it would become a preventative measure. It would not be a treatment for AIDS. Currently, there is no specific treatment for AIDS. Secondary disorders which result from impaired immunity can sometimes be treated effectively. Numerous research projects are directed toward the ultimate development of an anti-viral medication and toward medications which could enhance the immunity of individuals infected by the AIDS virus. The most recent research, still in the experimental state, indicates that medications may soon be on the market for treatment.

Applicable Laws and Regulations

By regulation the Arkansas State Department of Health has classified AIDS as being a communicable disease. This means that the disease must be reported to the Arkansas Department of Health which is responsible for investigating all contacts with persons known to have a communicable disease.

Arkansas Medical Society Position

The Arkansas Medical Society and its members as well as health care professionals all around the world are concerned about the spread of AIDS. Compounding the problem of the lack of a vaccine and specific treatment modalities is the problem that the AIDS virus may infect individuals and it may be as long as five years before it can be detected by the "associated, related diseases."

The Arkansas Medical Society strongly supports the United States Public Health Service which recommends that the following steps be taken to prevent the spread of AIDS:

- Do not have sexual contact with persons known to have or suspected of having AIDS, or known to be suspected of being carriers of the virus, or who are positive for the AIDS antibody test. If you do, use condoms and avoid sexual practices that damage body tissues (such as anal intercourse).
- Do not have sex with multiple partners, or with partners who have had multiple partners.
- Persons who are at risk for having AIDS should not donate blood.

- Do not use illicit drugs. If you use IV drugs, then do not share needles or syringes.
- Do not have sex with people who inject drugs.

The Arkansas Medical Society strongly believes and supports educational efforts directed to all levels of the education system and the general public to make our citizens aware of the global implication and extent of this health problem. The public should be informed that the virus currently (1986) inflicts as many as 1,000,000 persons in the United States and it has the potential of spreading at an ever-expanding rate. The only effective counter measure to this potential is behavior modification resulting from education about the disorder and its routes of transmission.

Special recommendations for persons with positive HTLV-III antibody tests have been made to further prevent the spread of AIDS. This information may be obtained from a local or state health department or from your physician.

* * *

For a referral to information and support services in your area, call the Public Health Service AIDS hotline number: 1-800-447-AIDS.

Report of the Executive Vice President

Ken LaMastus, CAE

It is often stated that challenges present opportunities. If this is the case, the staff of the Arkansas Medical Society has had many "opportunities" this past year.

The office of the Arkansas Medical Society in Fort Smith was closed and moved to Little Rock on April 30 of last year, one week after the convention. Although the Arkansas Medical Society building was completed on time, the Society's office suite was not completed until mid-May. This necessitated moving the headquarters office into temporary facilities at the Plaza West Building, where the Society's Little Rock branch office was located.

Beginning last February, the Society began hiring a new staff. Some new staff members began work the week of the convention as none of the Fort Smith staff desired to move to Little Rock.

I am pleased with our new office staff, especially Ms. Peggy Cryer, our new Director of Administrative Services. She has the responsibility of supervising our office clerieal staff and managing the convention. She has several years of association management experience and I am extremely pleased with her leadership and supervisory skills.

At the time of the move into our new facilities, we were budgeted to update some of our equipment as well as furnishings. This included software for an existing small computer which has allowed us to automate the accounting system and membership records and we also purchased additional mailroom equipment. Throughout 1987, we will further automate our word processing and computer capabilities.

This April we will begin using a "desktop publishing" system for typesetting our journal. Some savings will be seen in 1987, with further savings occurring in the coming years.

We are especially proud of our new office facilities which include a conference room that is being used for meetings of the Society, specialty groups and other medically related organizations. In the near future, the Medical Society building will be 82% occupied. With Little Rock's commercial rental market being what it is, this is an extremely good occupancy rate.

This past year, David Wroten has worked with the residents at UAMS in organizing the Arkansas Medical Society-Resident Physician Section. Future benefits of bringing on physicians in training will be apparent both in membership and in the strength of the Society. Dr. Todd Holt, an emergency medicine resident, is the organization's president.

The Society has spent a great deal of money in the development of the new building and the move to Little Rock. We are looking forward to 1987 being a more stable year financially and hope that the Society will be operating in the black in 1987. The Society was better off financially in 1986 than was budgeted. Income was slightly more and expenses less than anticipated. However, the Society still spent more money in 1986 than it reeeived. Considerable cost savings have occurred in salaries due to a reduction in the number of staff members. Previously, the Society employed eleven people. Currently, it has a staff of eight and we anticipate hiring another person because of the changes being made in the preparation of the journal. This still leaves the Society with two fewer employees than that of a year ago.

When the annual session and the legislative session are over, your new staff will have completed an annual cycle of Medical Society functions and all will have had some experience with the Society's activities.

We are looking forward to a good year in 1987, and a future providing efficient services for our members. Strengthening of organized medicine in Arkansas can occur with a growth in membership and the dedication of our members who are concerned about their profession and the direction of medical care in Arkansas.

Budget Committee
Frederick E. Joyce, M.D., Chairman

The Budget Committee submitted the following budget for 1987. The complete budget, as presented to the Council, is available to members upon request.

INCOME

Income	*1987 Budget*
Membership Dues	$563,465.00
Journal Advertising	51,300.00
Booth Income	16,700.00
Annual Session	6,000.00
AMA Reimbursement	5,500.00
Miscellaneous & Rosters	6,000.00
Interest	30,000.00
Specialty Desk	500.00
INTRAV Reimbursement	2,500.00
Continuing Medical Education	750.00
Rent Income	13,366.00
	$696,131.00

EXPENSES

Salaries	$183,200.00
Travel & Convention	47,500.00
President's Travel	3,000.00
Taxes	16,500.00
Retirement	19,959.00
Stationery & Printing	12,000.00
Office Supplies & Expenses	17,000.00
Telephone & Telegraph	14,000.00
Rent	110,236.00
Postage	31,000.00
Insurance & Bonds	30,000.00
Auditing	5,000.00
Council Expense	3,000.00
Lobbying Activities	3,000.00
Journal Printing	44,350.00*
Annual Session	40,000.00
Winter Meeting	2,000.00
Dues & Subscriptions	4,500.00
Gifts & Contributions	2,000.00
Woman's Auxiliary	1,700.00
Legal Services	38,000.00
Schaeffer Lawsuit	20,000.00
Special Committee	1,000.00
Rural Health	500.00
Miscellaneous	4,000.00
Freight & Express	0.00
Office Equipment	14,500.00*
Continuing Medical Education	1,600.00
Moving Expense	0.00
Miss Richmond's Early Retirement	5,800.00
Contract Labor	500.00
Annual Session 1987	0.00
Medical Student Section	4,000.00
	$677,865.00

*Reflects the altered proposal approved by the Council for in-house Journal work.

Proposal for Savings in Journal Printing Costs

The cost of printing the *Journal* contains two steps which could be completed in-house rather than through a commercial printer.

Step 1 — Paste-up and Layout	
$1,700 per month x 12 months	$20,400
Step 2 — Typesetting	
$13.75 per pg. x 50 pgs. x 12 months	$ 8,250
Anticipated Savings	$28,650

Additional Costs:

We would need a desk-top publishing software package and a Laser printer

Expected cost (first year only)	(4,500)
Net Savings — first year	$24,150

ARKANSAS MEDICAL SOCIETY
STATEMENT OF REVENUES
AND EXPENDITURES
1986

	Amount Budgeted 1986	*1986 Year End Total*	*Percent of Budget*
Income			
State Society Dues	$527,085.00	$576,187.17	109
State Society Dues — 1987	0.00	138,458.24	0
Journal Advertising	50,000.00	47,539.00	95
Booth Income	14,000.00	11,050.00	79
Annual Session	6,000.00	7,353.00	123
AMA Reimbursement	5,000.00	5,953.52	119
Miscellaneous & Rosters	6,000.00	10,847.94	181
Interest	30,000.00	31,139.31	104
Specialty Desk	1,400.00	757.30	54
INTRAV Reimbursement	3,000.00	2,386.97	80
Continuing Medical Education	500.00	635.40	127
Rent Income	0.00	6,906.00	0
Roster Income	0.00	308.50	0
	$642,985.00	$839,522.35	131
Outstanding Accounts Receivable		5,501.65	
		$834,020.70	130
Expenses			
Salaries	$247,745.00	$242,043.52	98
Travel & Convention	50,000.00	40,773.82	82
President's Travel	3,000.00	2,312.78	77
Taxes	20,710.00	20,290.34	98
Retirement	25,500.00	25,896.97	102
Stationery & Printing	12,000.00	12,975.43	108
Office Supplies & Expenses	20,000.00	17,610.64	88
Telephone & Telegraph	17,000.00	14,044.38	83
Rent	84,127.00	88,767.52	106
Postage	33,500.00	26,943.81	80
Insurance & Bonds	27,000.00	26,315.95	97
Auditing	6,000.00	8,262.50	138
Council Expense	6,000.00	2,590.50	43
Lobbying Activities	1,500.00	990.15	66
Journal Printing	65,000.00	58,591.99	90
Annual Session	40,000.00	38,156.47	95
Winter Meeting	2,000.00	2,321.25	116
Dues & Subscriptions	6,000.00	4,920.02	82
Gifts & Contributions	2,000.00	2,995.83	150
Women's Auxiliary	1,700.00	1,950.00	115
Legal Services (Retainer)	36,000.00	36,790.94	102
Schaeffer Lawsuit	25,000.00	6,810.99	27
Special Committee	2,000.00	1,147.51	57
Rural Health Committee	500.00	300.00	60
Miscellaneous Expenses	7,400.00	6,017.54	81
Freight & Express	100.00	14.18	14
Office Equipment & Furniture	85,170.00	86,624.91	102
Continuing Medical Education	600.00	200.00	33
Moving Expense	3,000.00	1,742.50	58
Miss Richmond's Early Retirement	3,000.00	3,880.00	129
Contract Labor	0.00	1,057.28	0
Annual Session 1987	0.00	688.36	0
AMS Resident & Med. Student Sect.	0.00	2,266.87	0
	$833,552.00	$786,294.95	94

Medical Education Foundation for Arkansas

W. Martin Eisele, M.D., President

The Medical Education Foundation for Arkansas continues as an instrument of the Society to advance medical education in Arkansas. To that end, the Foundation continues to support the program of bringing outstanding authorities in various fields to the medical school for lectures, rounds, and conferences. This program is very well-received by the students and faculty. In addition, the Foundation occasionally contributes to the purchase of physical equipment which will enhance the teaching of students.

Voluntary contributions to the foundation are encouraged and will help augment our efforts in medical education.

Report of the Arkansas State Medical Board

The Arkansas State Medical Board investigated every case of violations of the Medical Practices Act and complaints filed against physicians which were reported to the Secretary during this year. Our office was able to successfully arbitrate a number of these complaints. The largest number of complaints dealt with alleged overcharging by physicians.

The State Medical Board published a 1986 directory which has been distributed. A 1987 directory will be published after March 1 of this year. The State Medical Board has gone to a computerized system and by moving the printing to a later date, the directory will be a more adequate and up-to-date listing of the physicians licensed by this board.

The State Medical Board voted to ask the legislature to grant them authority to increase the FLEX exam fee accordingly with the fee increase from the Federation of the State Medical Boards who supplies the board with this standardized licensing exam.

The State Medical Board licensed 131 physicians by examination, 115 by reciprocity and 89 by the National Boards during 1986.

The following is a summary of the Board's proceedings:

Physicians registered for 1986: Residents — 3,577; Non-residents 2,453

Physicians certified to other states: 145

Licenses revoked for nonpayment of annual registration fees: 101

License suspended for violation of Medical Practices Act: 3

Licenses revoked for violation of Medical Practices Act: 1

Cases pending for violation of Medical Practices Act: 3

Physicians D.E.A. privileges surrendered: 3

ARKANSAS STATE MEDICAL BOARD
Statement of Revenues and Expenditures

	Year ending June 30, 1985	*1984*
Revenues		
Registration fees — resident	$ 45,918.00	$ 45,686.00
Registration fees — nonresident	35,057.00	33,748.00
Reciprocities	26,625.00	39,600.00
Certificates	2,175.00	2,790.00
Examinations	36,425.00	35,325.00
Other	404.50	468.03
Directories	2,147.26	2,432.50
Occupational therapist dues and fees	1,705.00	1,539.00
Inhalation therapist dues and fees	144.00	175.00
Physical therapist assistants dues and fees	432.00	409.00
Physical therapist dues and fees	6,042.50	6,578.00
Occupational therapist assistant	99.00	49.00
Medical Corporation — fees	1,480.00	1,075.00
Medical Corporation — dues	7,910.00	7,976.00
Physician trained assistants	273.00	326.00
Medicine practice accounts	71.50	115.17
Temporary permits	13,260.00	13,585.00
Interest earned on certificates of deposit	20,643.75	17,629.32
	$200,812.51	$209,506.02
Less: Fee refunds and returned checks	125.00	1,005.00
Total Revenues	$200,687.51	$208,501.02
Expenditures		
Salary — secretary	24,289.28	22,359.96
Salary — clerical and extra help	36,965.84	36,293.84
Payroll taxes	4,303.62	4,014.57
Insurance expense	501.43	394.08
Salary and expense — board meetings	16,408.07	18,846.89
Reporter expense	4,502.72	3,494.20
Attorney fees and expense	26,792.62	26,992.05
Office rent	3,000.00	2,750.00
Office supplies, postage, telephone & telegraph	15,997.92	13,156.70
Printing of directories	9,891.35	7,601.60
Auditing	1,200.00	1,200.00
Federation dues	1,000.00	750.00
Retirement	7,330.24	6,742.32
Cost of RPT exams	2,855.74	2,237.50
Repairs	—	274.62
Cost of Flex exams	26,308.40	27,249.28
Microfilm storage	114.94	248.20
Miscellaneous	—	115.35
Depreciation expense	1,324.21	1,312.87
	$182,786.38	$176,034.03
REVENUES OVER (UNDER) EXPENDITURES	$ 17,901.13	$ 32,466.99

Arkansas Medical Society Resident Physician Section

Todd N. Holt, M.D., President

In July of 1986, David Wroten of the Arkansas Medical Society staff spoke at the Housestaff Orientation Program at the University of Arkansas for Medical Sciences about the formation of a Resident Physician Section of the State Society. Mr. Wroten had been working on the resident physician concept for over two years.

Shortly after the orientation meeting, I approached David and offered my assistance in the organizational effort. Along with six other volunteers, we began the process of developing a membership application, constitution and by-laws, and an informational brochure. At our first formal meeting held on August 26, 1986, at the Arkansas Medical Society offices, we six residents, with David Wroten as our advisor, established ourselves as a group, voted on our constitution and by-laws, and elected officers. Elected were Elicia Sinor, M.D., Vice President; Don Phillips, M.D., Secretary-Treasurer; Hershel Garner, M.D., Delegate to the Arkansas Medical Society; Chuck Mason, M.D., Alternate Delegate; and I was elected President. The other physician present, David Halinski, M.D., although not an officer, was instrumental in helping to establish the group. Our first meeting was used to establish specific goals and to plan a membership drive.

On September 14, 1986, the Council of the Arkansas Medical Society approved the charter of the Arkansas Medical Society Resident Physician Section (AMS-RPS). Formal presentation of the organization's charter occurred at the Society's Winter Meeting in November. Our membership drive began in early January, 1987, with Dr. Elicia Sinor as chairperson and organizer of the drive. Dr. Sinor and I spoke at several housestaff meetings publicizing both the membership drive and the upcoming legislative issues in the Arkansas General Assembly. Promotion of the organization was accomplished through posters, school newspapers and pamphlets. Every resident in the state received at their home address a membership application, a letter describing the group, and a pamphlet. Dr. Sinor and I also spoke at the Chief Residents' monthly meeting. After much discussion, we were able to gain their assistance in pursuing membership in their particular specialties.

To date, February 10, 1987, over one-third of the residents in the state have become members. The drive is only three weeks old.

Dr. Sinor and I also had the opportunity to attend the American Medical Association Resident Physician Section meeting last December in Las Vegas, Nevada. We were very impressed with the depth and scope of issues that the national resident group was addressing, such as teenage pregnancy and compulsary draft registration for physicians. Other important issues on reimbursement and payment schedules were discussed. Since that time, I have been nominated by the RPS Governing Council to run for the resident position on the AMA's Council on Medical Education. This will take place in June at the AMA's Annual Meeting in Chicago. Both Dr. Sinor and I will also participate in the National Leadership Conference in February.

Membership has remained the first goal for the Resident Section. In March, a meeting will be scheduled for all new members. Several seminars are being planned especially for residents and a reception is to be sponsored by a local bank.

One of our major goals is to teach residents how to become responsible lobbyists and participate in the political process. With medicine changing so rapidly in today's society, we feel it is a necessity that residents participate in decisions being made now which will control how they practice in the future.

Although the AMS-RPS is very young, we have already started getting residents involved in lobbying efforts. Letters were placed in every resident's box encouraging them to write or call their representatives and Governor Clinton about the optometry therapeutic drug bills. Apparently, Governor Clinton's office had a significant response. Several residents will also be staffing the "Doctor of the Day" program February 9-13 at the Capitol.

Later in the spring, we will approach the Governor about proclaiming a Resident Physician Week.

We are looking forward to future interaction with the State Medical Society and hope that we can work together to address the problems facing medicine.

The Arkansas Department of Health

Ben N. Saltzman, M.D., Director

The Arkansas Department of Health has experienced another exciting year. Despite severe budgetary cutbacks, we have been confronted with serious public health problems. Early in 1986, we had a serious measles epidemic in the northwestern part of our state. Soon afterwards, we learned of a heptachlor contamination of milk affecting many of our milk producers and dairies over the state. These happenings resulted in considerable utilization of extra funds and manpower, both of which were in short supply.

Throughout the year we experienced three serious budgetary cuts which resulted in the necessity of laying off more than 50 essential employees and the abolition of approximately 50 more positions by the attrition mechanism. Despite all this, we were able to maintain most of our programs. However, we could only look forward to further cuts for the next biennium.

I cannot sing enough praises for the staff of the Department of Health. Most of the individuals worked overtime and on weekends without extra pay. They showed a sincere dedication to serving the people of the state at the time when they needed our services the most.

I continue to be very proud of the work our people are doing. The activities pertaining to the care of moth-

ers, infants and children have been recognized nationwide. We have been able to cut the infant mortality rate in eastern Arkansas at a time when most mortality rates in the United States have been climbing. We have been able to maintain a good balance in this respect.

The following pages will outline, in some detail, the work of the Department. As Director, I hope that the membership of the Arkansas Medical Society will read this report carefully. It represents the accomplishment of many people who are dedicated to the purposes of public health, namely, the prevention of disease and disability.

Bureau of Community Health Services
Nancy Kirsch, Director

The Bureau of Community Health Services (BCHS) is responsible for the administrative direction and supervision of all field services, personnel, and resources through eleven area offices and ninety-six local health units. The following paragraphs delineate the major accomplishments of 1986.

Funds again became available in 1986 through the Arkansas Industrial Development Commission (AIDC) for construction and renovation of public health facilities. The Bureau of Community Health Services chaired a Health Department committee which assisted AIDC in review and evaluation of grant applications for public health facilities. Area management and local health unit staffs worked closely with local government officials and community leaders in preparing the grant applications.

Nine counties or cities submitted grant applications for construction of new facilities or renovation of existing local health unit facilities. Of these nine applications, three were approved and four placed on standby in case leftover funds become available. Construction of a new facility was approved for Lee County. Renovation was funded for the Arkansas-Stuttgart and Dallas County Health Units. Applications for construction of new facilities for the Ashley-Crossett, Hot Spring, Cleburne, and Crittenden County Health Units were placed on standby.

Management evaluations were conducted on many of the local health units by either central office or area personnel. Improvements continue to be made in the areas of fiscal accountability, inventory, record-keeping, personnel management, and facilities for the handicapped. However, these evaluations continue to indicate that many local health unit facilities are in need of significant improvements. Many lack adequate space for the staffs housed there and the number of patients routinely seen in the units.

The Bureau of Community Health Services continued its program of inservice training for its 80 Local Health Unit Administrators. A staff development meeting was held in October. This meeting included six discussion groups in which the administrators discussed current problems and formulated possible solutions. The feedback received from the administrators following these discussions will be very helpful to BCHS in determining the future direction for operational improvements.

In February, there was an outbreak of measles which was linked to a varsity basketball game at the University of Arkansas. From there, the outbreak appeared to spread rapidly across the state. By April 22, 273 cases had been confirmed in 14 counties. During the three-month period from February through April, special after-hour, weekend, and school immunization clinics were held across the state in efforts to arrest the outbreak. Over 92,000 doses of measles vaccine were administered before the outbreak was halted.

Shortly after the measles crisis, a grain feed plant in Van Buren was discovered to have grain tainted with heptachlor. The ensuing epidemiological investigation and follow-up dominated the local sanitarians' work schedules. Intensive efforts were made to identify contaminated dairy herds and dairy products and eliminate public exposure to heptachlor. During a two-month period, sanitarians inspected 122 dairy cattle herds and pulled thousands of containers of dairy products from grocery store shelves.

The possibility of heptachlor contamination of natural breast milk was of great concern to breast-feeding mothers across the state. In an effort to alleviate any fears these mothers had, the local health units began collecting breast milk samples for heptachlor testing. Approximately 943 samples were collected and tested, and all heptachlor levels were found to be well within acceptably safe limits.

In an effort to lower the administrative costs of the Women, Infants, and Children (WIC) Supplemental Food Program and provide better service to our WIC clients, the clerical staffs in local health units were trained to issue WIC vouchers to clients. This transition called for many adjustments to be made by the local health unit staffs. As a result of this cost cutting measure, 48 administrative positions were eliminated and replaced with 45 clerical positions.

During 1986 we faced three budget reductions due to shortfalls in state revenue. These budget cuts resulted in a loss of 65 full-time equivalent field positions and 49 positions were reduced to less than full-time. Although some services were reduced or eliminated, every effort was made to minimize the impact of the budget cuts on the services offered by the local health units.

Bureau of Environmental Health Services
Jerry G. Hill, Director

DIVISION OF ENGINEERING

The Division of Engineering reviewed and ranked 38 water project and 35 sewer project grant applications for funding under the Arkansas Industrial Development Commission's (AIDC) Community and Economic De-

velopment Program. This review included the chemical analysis of over 50 water samples and the interpretation of the result of those analyses.

Through cooperation with the Department of Pollution Control and Ecology (DPC&E), the division conducted a seminar for public officials and consulting engineers on the design of wastewater systems for small communities.

The division and DPC&E developed a policy on disinfection and filtration of sewage effluents being discharged into "losing streams." The report on this project, which was prepared by DPC&E, will be implemented in the permit review process as directed by the Pollution Control and Ecology Commission.

All required trihalomethane (THM) analyses were completed, even though the Health Department's Organic Chemistry Laboratory was unable to perform the analyses due to the increased workload resulting from the heptachlor milk crisis. The analyses were performed by the Environmental Protection Agency/contract laboratories at a cost of $5,000 to the State.

The conversion of a manual licensing system to an automated system for all plumbers and related licenses was completed. Over 4,700 licenses were entered in the Agency's data processing system, eliminating the previous system which utilized an addressograph.

Another year of supervising public water systems in Arkansas was concluded without any known waterborne disease outbreak or any major contamination incidents.

DIVISION OF HEALTH FACILITY SERVICES

In March the Division of Health Facility Services convened the Education Committee for the first time for the purpose of revising the 1979 Rules and Regulations for the Hospitals and Related Institutions in Arkansas. The Committee is composed of 14 individuals in various professions related to hospitals and health care. It serves as a type of "advisory board" to the division on hospital and health care issues. It is hoped the Rules and Regulations will be in final form and ready for implementation during the spring of 1987.

Alcohol/Drug Regulations have also been drafted. These regulations deal with freestanding as well as hospital-based Alcohol/Drug Units.

The Health Care Financing Administration continued its agreement with the Department of Health for this division to be the certifying agency of Medicare/Medicaid health care facilities in the state.

DIVISION OF PUBLIC HEALTH LABORATORIES

Beginning in March the Food Chemistry/Asbestos Laboratory closed to assist the organic Pesticide Laboratory with its heavy workload resulting from the heptachlor milk crisis. A total of 774 animal milk samples and 994 human breast milk samples was processed.

In August the Toxicology Laboratory tested a limited amount of milk for cyanide poisoning in conjunction with the State Crime Laboratory.

In November HIV (AIDS) testing for repeated positive results was approved. Also, HIV (AIDS) annual projections for testing were increased from 604 to 6,000.

DIVISION OF RADIATION CONTROL AND EMERGENCY MANAGEMENT

The Division of Radiation Control and Emergency Management is the lead agency for off-site response to an incident at ANO. On April 2 the division's staff, as well as representatives of other state agencies, county and local governments, and medical facilities, participated in REX-86, the federally mandated and evaluated emergency response exercise at ANO. The division's capabilities were successfully demonstrated. No category deficiencies were identified and it was stated by federal evaluators that the off-site health physics monitoring team performance has become a standard used to evaluate other field monitoring teams throughout the United States.

An accident at the USSR's Chernobyl Nuclear Power Plant released a substantial quantity of radioactive material into the atmosphere. Environmental surveillance activities increased throughout the world after radionuclides were detected on samples taken outside the Soviet Union. The Division of Radiation Control and Emergency Management increased sampling frequency on environmental monitoring. Daily samples were collected from April 29 through June 6 for particulates in air and radioiodine in air and rainwater. In addition, an ambient radiation monitor was set up to continuously monitor background radiation levels. No levels were detected that were significant enough to have an impact on the public's health or to warrant protective action recommendations.

DIVISION OF SANITARIAN SERVICES

Near the end of January, 1986, a FDA Inspector in Fort Smith was notified that bulk feed sold by the Valley Feed Co. of Van Buren to farmers in Arkansas, Missouri, and Oklahoma was suspected of being contaminated with aflatoxin. Further investigation by the Inspector showed the feed to be pink tinted, indicating it may have been treated with pesticides and originally sold as seed. The division's Grade "A" Milk Program was notified of these events the first of March, and testing of milk samples from dairymen known to have purchased the suspect feed began.

These test results showed both aflatoxin and heptachlor, and the Health Department's Division of Public Health Laboratories and Division of Sanitarian Services' Grade "A" Milk personnel began gearing up for large scale testing of milk. In the following months, 711 samples of both raw and pasteurized milk were collected and reported. Of these, 110 samples tested positive for heptachlor. Heptachlor is a pesticide which has caused cancer in laboratory rats.

Motrin® 800 TABLETS mg

ibuprofen

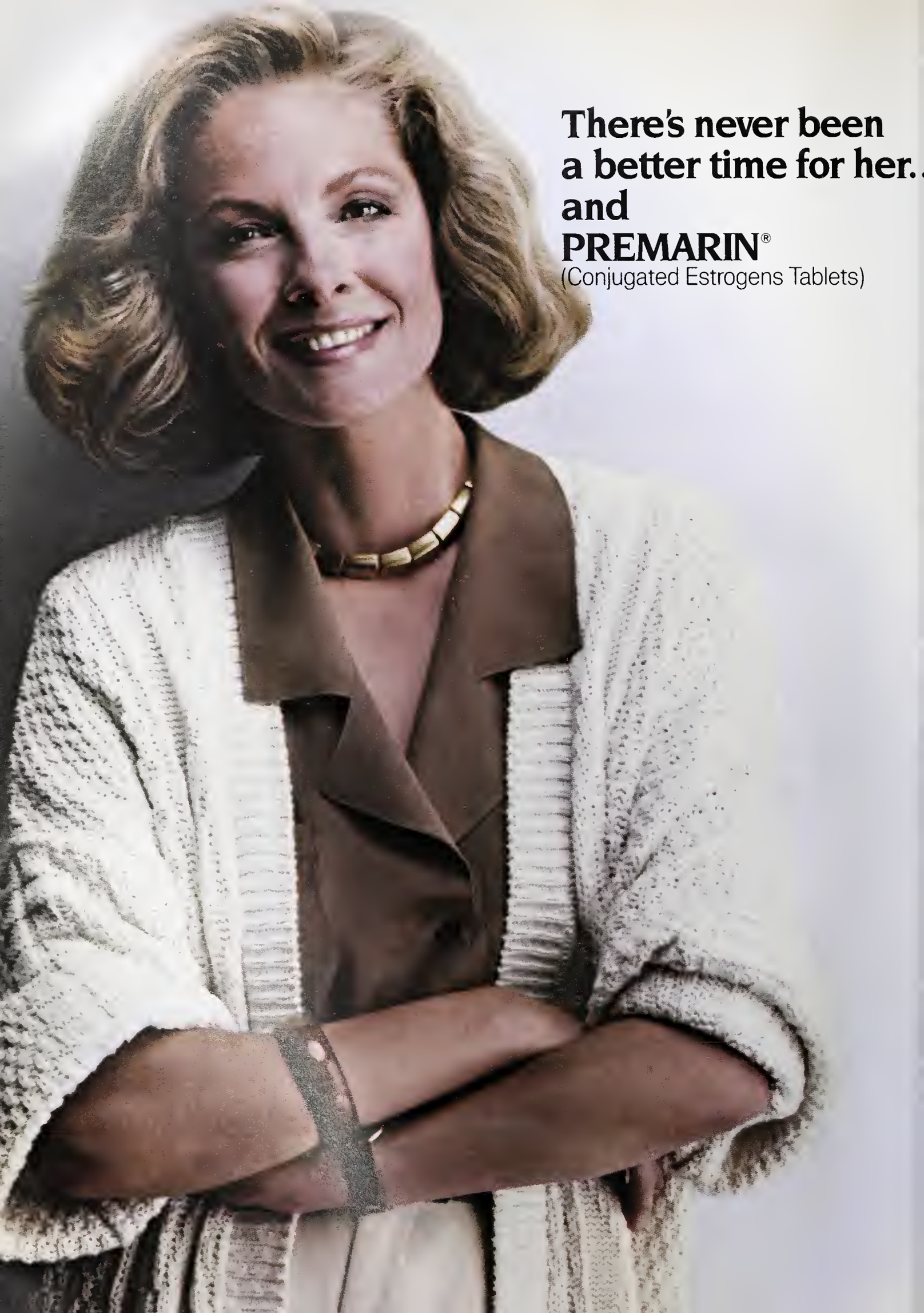


Extra strength
Convenience
Economy

Upjohn 100 A Century of Caring 1886·1986

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J-6138 January 1986



There's never been a better time for her... and PREMARIN®
(Conjugated Estrogens Tablets)

Now the evidence looks better than ever

Significantly reduced risk of endometrial hyperplasia

Endometrial hyperplasia was significantly reduced when progestin was added to PREMARIN therapy for more than ten days a month.[1-4] The risk of endometrial hyperplasia may also be reduced through cyclic administration of unopposed, low-dose PREMARIN.

Effect on lipids—an important feature

PREMARIN used alone does not adversely affect lipid levels. In fact, a clinical study has shown a significant increase in HDL cholesterol—from 49.7 mg/dL to 56.4 mg/dL—and decrease in LDL cholesterol—from 165.1 mg/dL to 138.1 mg/dL—after one year of therapy with PREMARIN, 0.625 mg.[5]

Low-dose control of menopausal symptoms*

PREMARIN effectively relieves vasomotor symptoms, such as hot flashes. When estrogen deficiency is limited to atrophic vaginitis, PREMARIN® (conjugated estrogens) Vaginal Cream restores the vaginal environment to its premenopausal state.

The most widely used, most extensively studied estrogen worldwide.

PREMARIN®
(Conjugated Estrogens Tablets)

Most trusted for more reasons

*PREMARIN is indicated for moderate-to-severe vasomotor symptoms.

Please see following page for brief summary of prescribing information.

For moderate-to-severe vasomotor symptoms

PREMARIN®
(Conjugated Estrogens Tablets)



0.3 mg 0.625 mg 0.9 mg 1.25 mg 2.5 mg

The appearance of these tablets is a trademark of Ayerst Laboratories.

For atrophic vaginitis

PREMARIN®
(Conjugated Estrogens)

Vaginal Cream

0.625mg/g



BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION AND PATIENT INFORMATION, SEE PACKAGE CIRCULARS.)*

PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream in a nonliquefying base

1 ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK OF ENDOMETRIAL CARCINOMA

Three independent case control studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer. These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade. The three case control studies reported that the risk of endometrial cancer in estrogen users was about 4.5 to 13.9 times greater than in nonusers. The risk appears to depend on both duration of treatment and on estrogen dose. In view of these findings, when estrogens are used for the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible. When prolonged treatment is medically indicated, the patient should be reassessed on at least a semiannual basis to determine the need for continued therapy. Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration. It therefore appears prudent to utilize such a regimen. Close clinical surveillance of all women taking estrogens is important. In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy. There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equiestrogenic doses.

2. ESTROGENS SHOULD NOT BE USED DURING PREGNANCY

The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring. It has been shown that females exposed in utero to diethylstilbestrol, a non-steroidal estrogen, have an increased risk of developing in later life a form of vaginal or cervical cancer that is ordinarily extremely rare. This risk has been estimated as not greater than 4 per 1,000 exposures. Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix. Although these changes are histologically benign, it is not known whether they are precursors of malignancy. Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes. Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb reduction defects. One case control study estimated a 4.7-fold increased risk of limb reduction defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment for threatened abortion). Some of these exposures were very short and involved only a few days of treatment. The data suggest that the risk of limb reduction defects in exposed fetuses is somewhat less than 1 per 1,000. In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion. There is considerable evidence that estrogens are ineffective for these indications, and there is no evidence from well controlled studies that progestogens are effective for these uses. If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation.

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine. It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters. Tablets are available in 0.3 mg, 0.625 mg, 0.9 mg, 1.25 mg, and 2.5 mg strengths of conjugated estrogens. Cream is available as 0.625 mg conjugated estrogens per gram.

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets, USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause. (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions.) **Osteoporosis (abnormally low bone mass).** Atrophic vaginitis. Kraurosis vulvae. Female castration.

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae. PREMARIN HAS NOT BEEN SHOWN TO BE EFFECTIVE FOR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING).

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized. Studies of the addition of a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia. Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes. Whether this will provide protection from endometrial carcinoma has not been clearly established. There are possible additional risks which may be associated with the inclusion of progestin in estrogen replacement regimens. (See PRECAUTIONS.) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects.

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions: 1. Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease. 2. Known or suspected estrogen-dependent neoplasia. 3. Known or suspected pregnancy (See Boxed Warning). 4. Undiagnosed abnormal genital bleeding. 5. Active thrombophlebitis or thromboembolic disorders. 6. A past history of thrombophlebitis, thromboosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy).

WARNINGS: Long-term continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver. There are now reports that estrogens increase the risk of carcinoma of the endometrium in humans. (See Boxed Warning.) At the present time there is no satisfactory evidence that estrogens given to postmenopausal women increase the risk of cancer of the breast, although a recent study has raised this possibility. There is a need for caution in prescribing estrogens for women with a strong family history of breast cancer or who have breast nodules, fibrocystic disease, or abnormal mammograms. A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens.

Adverse effects of oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women for postpartum breast engorgement. Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke, and myocardial infarction. Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users. An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives. If feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization. Estrogens should not be used in persons with active thromboophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use. They should be used with caution in patients with cerebral vascular or coronary artery disease. Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nonfatal myocardial infarction, pulmonary embolism and thrombophlebitis. When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk.

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock. Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives. Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use. A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives. For this reason, diabetic patients should be carefully observed. Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases.

PRECAUTIONS: Physical examination and a complete medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear. As a general rule, estrogen should not be prescribed for longer than one year without another physical examination being performed. Conditions influenced by fluid retention such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation. Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc. Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients. Oral contraceptives appear to be associated with an increased incidence of mental depression. Patients with a history of depression should be carefully observed. Preexisting uterine leiomyomata may increase in size during estrogen use. The pathologist should be advised of estrogen therapy when relevant specimens are submitted. If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated. Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not complete. If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism.

The following changes may be expected with larger doses of estrogen:

a. Increased sulfobromophthalein retention.

b. Increased prothrombin and factors VII, VIII, IX, and X; decreased antithrombin 3; increased norepinephrine-induced platelet aggregability.

c. Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T4 by column, or T4 by radioimmunoassay. Free T3 resin uptake is decreased, reflecting the elevated TBG; free T4 concentration is unaltered.

d. Impaired glucose tolerance.

e. Decreased pregnanediol excretion.

f. Reduced response to metyrapone test.

g. Reduced serum folate concentration.

h. Increased serum triglyceride and phospholipid concentration. As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk.

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives: breakthrough bleeding, spotting, change in menstrual flow; dysmenorrhea; premenstrual-like syndrome; amenorrhea during and after treatment; increase in size of uterine fibromyomata; vaginal candidiasis, change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, bloating; cholestatic jaundice; chloasma or melasma which may persist when drug is discontinued; erythema multiforme; erythema nodosum; hemorrhagic eruption; loss of scalp hair; hirsutism; steepening of corneal curvature; intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea; increase or decrease in weight; reduced carbohydrate tolerance; aggravation of porphyria; edema; changes in libido.

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females.

DOSAGE AND ADMINISTRATION:

PREMARIN® Brand of conjugated estrogens tablets, USP

1. *Given cyclically for short-term use only.* For treatment of moderate to severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0.3 to 1.25 mg or more daily). The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible. Administration should be cyclic (eg, three weeks on and one week off). Attempts to discontinue or taper medication should be made at three- to six-month intervals.

2. *Given cyclically.* Female castration. Osteoporosis. Female castration—1.25 mg daily, cyclically. Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control. Osteoporosis—0.625 mg daily. Administration should be cyclic (eg, three weeks on and one week off).

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

PREMARIN® Brand of conjugated estrogens Vaginal Cream

Given cyclically for short-term use only. For treatment of atrophic vaginitis or kraurosis vulvae.

The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible.

Administration should be cyclic (eg, three weeks on and one week off).

Attempts to discontinue or taper medication should be made at three-to-six month intervals.

Usual dosage range: 2 to 4 g daily, intravaginally, depending on the severity of the condition.

Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

References:

1. Whitehead MI, Townsend PT, Pryse-Davies J, et al: Effects of estrogens and progestins on the biochemistry and morphology of the postmenopausal endometrium. *N Engl J Med* 1981;305:1599-1605. 2. Paterson MEL, Wade-Evans T, Sturdee DW, et al: Endometrial disease after treatment with oestrogens and progestogens in the climacteric. *Br Med J* 1980;280:822-824. 3. Magos AL, Brincat M, Studd JWW, et al: Amenorrhea and endometrial atrophy with continuous oral estrogen and progestogen therapy in postmenopausal women. *Obstet Gynecol* 1985;67:496-499. 4. Whitehead MI, Lane G, Siddle N, et al: Avoidance of endometrial hyperstimulation in estrogen-treated postmenopausal women. *Semin Reprod Endocrinol* 1983;1:1;41-52. 5. Barnes RB, Roy S, Lobo RA: Comparison of lipid and androgen levels after conjugated estrogen or depo-medroxyprogesterone acetate treatment in postmenopausal women. *Obstet Gynecol* 1985;66:216-219.

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The confirmation of heptachlor in these samples resulted in 14 recalls of milk products from producer plants and grocery stores, resulting in the destruction of 329,950 gallons of milk and 14,192 gallons of ice cream. Initially, 122 dairies were quarantined until their milk could be analyzed for heptachlor and cleared. Eventually only 34 dairies remained on quarantine. As of December, 1986, 23 of these dairies remain quarantined and continue to require regular sampling and testing to determine when their milk will be free of heptachlor.

On July 22, an anonymous caller claimed to have added cyanide to the milk at Foremost Dairy at Paragould. Although testing failed to discover any contaminated milk, a recall of Foremost products was made. Over 80,000 gallons of milk were returned and dumped onto open fields at a rate of 1000 gallons per acre. Both Grade "A" Milk Program personnel and Area 11 Sanitarians participated in the recall and milk disposal.

Several grain bins in northeast Arkansas were quarantined due to contamination with chloradane. The Health Department assisted in the disposal of over 200,000 chickens that had been fed the contaminated grain.

All three sections of the Division of Sanitarian Services began using a new computerized accounting system to aid in the processing of the several different permits issued. This system drastically reduces the man hours necessary to send the statements, process the fee and issue the permits. Although no comparison figures are available from the old manual system, the computerized permitting has apparently also enhanced the rate of collection, especially with the Food Service Permit.

During the last quarter of 1986, the Office of Emergency Services and the Federal Emergency Management Agency sponsored a "train the trainer" workshop on Hazardous Materials. Eighteen Health Department personnel attended the 12 hour course, which focused on the correct procedures to be taken as the first to respond to a hazardous materials incident.

In response to the recent incidents of food contamination, the United States Food and Drug Administration presented a three day workshop for 30 Sanitarians on pesticides and chemical contaminates in foods. The program's purpose was to keep our staff abreast of current trends, regulations, and procedures being carried out in regard to pesticides and industrial chemical contaminates found in the food chain.

The Food Service Program completed its statewide food service inspection standardization of all field Sanitarians. This continuing education program is designed to provide training in the interpretation of the Rules and Regulations and inspectional techniques used in regard to the Food Service Program.

The federal government paid the cost of three representatives from the General Sanitation Section to attend a two day workshop in New Orleans on the *Aedes albopictus* mosquito. This mosquito is a mechanical vector for Dengue fever and is found in association with used tire dumps. In September, Health Department personnel assisted a CDC representative from Fort Collins in surveying several cities for this mosquito. Both the adult and larvae form of the *Aedes albopictus* were found in the Sheridan area. This is the only location in Arkansas where this mosquito has been discovered.

In a contract with the Consumer Product Safety Commission, two of our personnel became commissioned product safety officers and conducted 14 in-depth product investigations in response to reported product-related injuries. We have contracted to do twice as many investigations in 1987.

The division has been busy revising its fee system. Legislation has been drafted to increase ten of the current fees. In addition, legislation has been drafted requesting fees be levied for 16 additional services/permits. Work has begun in preparation of the collection and processing of the new fees.

A reorganization of the division, due to both state and federal funding decreases, eliminated two program areas by combining part of their services and staff into existing program sections. The Environmental Support Service Program lost two positions and the remaining positions and services were absorbed into the General Sanitation Section. The FDA Contract Section lost a position and was transferred into the Food and Dairy Program. The federal funding which has supported the FDA program for many years is steadily being eliminated. By transferring its functions and remaining personnel into the Food & Dairy Section, the State will be able to continue the program's inspectional services.

Bureau of Health Resources
A. Stuart Fitzhugh, M.D., Director

DIVISION OF PUBLIC HEALTH NURSING

During 1986, the Division of Nursing developed and provided training on documentation for all nurses. This was done along with the MCH and WIC Programs. The goal was to improve the quality of the records and decrease the nursing time used for charting.

The Nursing Supervisors developed an audit tool used for chart review. This tool along with observation will be used for performance evaluation.

The Division requires CPR training for all nurses. They ensure the training is done. The policies for emergency procedures were added to the Patient Care Services Manual. Minor emergency equipment is being placed in each health unit.

The major role of this division is to support the field nurse as she provides services with less staff.

DIVISION OF MEDICAL SOCIAL SERVICES

The Division of Medical Social Services was involved in a broad range of activities in 1986 aimed at prevention as well as direct patient services. Social workers have done training in teenage sexuality in public school class-

rooms; stress management and death and dying at the Fire and Police Training Academy in Camden; and child abuse training within the Health Department.

The Director helped plan the MCH Social Workers Conference for Regions IV and VI to be held in New Orleans in May 1987. She and another staff member helped plan the conference "Violence in America" in Dallas, November 1986.

In September one staff member began working half-time with a 2-year grant funded by HHS through UALR. The project uses grandmothers as role models and sorority members as volunteers with 30 black teenage mothers. Most of the teens are referrals from the Health Department. This allows for follow-up not otherwise available.

Despite staff losses, the Division provides some direct services to maternity, family planning, child health and intensive care nursery patients. The Director began counseling in the HTLV III screening clinic at Pulaski County. Five other members of the staff have completed HTLV III counseling training.

DIVISION OF PHARMACY SERVICES

Three hundred investigations of legitimate drug handlers were done. Licensing board action and/or cease and desist orders against 140 persons resulted.

The Division destroyed three million dose units of narcotics and drugs. These drugs came from hospitals, long term care facilities, physicians, dentists, veterinarians and police.

Pharmacy services in each public health unit continued. This program helps to assure safe and effective drug use by patients of the health units.

The Division consulted with boards, and agencies on drug, cosmetic and medical device laws and regulations.

The Director held public hearings and appeared before the Legislative Council and professional boards to schedule controlled drugs. He participated in a conference on health fraud jointly with FDA in April and represented the Governor at a D.E.A. National Conference in March 1985. The Director was elected as secretary of the *National Association of State Control Substance Authorities*. As a clinical instructor at UAMS, he trained pharmacy students in public health.

OFFICE OF POLICIES & PROCEDURES

The Office of Policies and Procedures worked on several major projects during 1986. These included:

— revision and distribution of WIC policies.
— development of a Laboratory Services Volume to be released in February or March of 1987.
— assistance in writing policies and procedures for Safety Seat, Home Care, and Nurse Midwife Programs.

This office helps keep all poliey manuals up-to-date. It also distributes manual changes and information to all work units. Last year this office helped prepare 115 agency memorandums and 80 manual changes.

In 1986 revision of the Immunization and Child Health manuals began. These volumes will be distributed in 1987.

DIVISION OF HEALTH EDUCATION AND PROMOTION

During 1986, the Division of Health Education and Promotion (HEP) again encouraged Arkansans to adopt healthful lifestyles.

Health Educators worked in five areas in Well Child, Maternity, Family Planning and Healthy Beginnings Programs. Over 700 educational classes were conducted in 1986. Also, HEP staff gave over 250 presentations to local groups. Staff represented the agency on many boards and committees. Other activities included:

State Health Education Conference and Governor's Award for Health Education and Promotion

HEP sponsored the Third Annual State Health Education Conference in Little Rock last November. The 2-day meeting featured fifty speakers. One hundred eighty health professionals attended. Governor's Health Education and Promotion Awards were given to outstanding school, worksite and community programs.

Health Directions Newsletter

In 1986, HEP published three issues of the newsletter. It was sent to 900 health professionals inside and outside the state. The newsletter provides information on resources, events, programs and current issues in health education.

Promotional Packages

HEP developed 23 promotional packages. The packages included 17 news articles, 117 public service announcements, and 16,915 copies of pamphlets and posters. All local health units received the packages to give to local media.

Community Health Promotion Awards

Each year, HEP coordinates the state competition for the Secretary of Health and Human Services, Community Health Promotion Awards. In 1986, a panel of 14 judges from the state evaluated 25 Arkansas projects. Five projects were sent for national competition. St. Vincent Infirmary and KATV Channel 7's Colorectal Cancer Screening Project were given the "Secretary's Award for Excellence in Community Health Promotion." Fifty-six of 197 projects received this highest honor. The other four Arkansas projects reeeived certificates for "Outstanding Community Health Promotion."

School Health Workshops

In September, October and November, HEP sponsored School Health Workshops in six management areas. Three hundred fifty school personnel attended. The workshops fostered cooperation between the schools and local health units and updated the schools on health issues.

Smoking Cessation

HEP held three "Freshstart" training sessions to train volunteers on how to conduct stop smoking programs. Fifteen volunteers from worksites, hospitals, clinics, schools, and nonprofit agencies attended.

Health Education Week

The Governor proclaimed Health Edueation Week as November 17-21. HEP developed a planning guide to assist schools in recognizing the week. Over 500 junior and senior high health teachers were given the guide. The guide contained sample activities, posters, a news article for a school paper, suggestions for establishing a health club, and clip art for flyers and posters.

Resource Center

The Center distributed 60,000 pamphlets, 2,500 audiovisuals, and 210 smoking kits. The Center loaned 840 pieces of equipment.

Vision and Hearing

Health Educators conducted 60 training sessions for 575 school health nurses, PTA members and others to enable them to screen children. 63,373 vision and 54,373 hearing screenings were done.

AIDS

The Arkansas Department of Health received federal monies in March 1986 to support the AIDS program. A Health Educator is assigned to this program. This educator has worked with the AIDS Review Panel on two pamphlets and set up a statewide AIDS Speakers Bureau with trained speakers.

DIVISION OF NUTRITION SERVICES

Nutrition personnel continued to broaden their role in community nutrition education. Presentations on wellness, therapeutic diets, infant and child feeding, and maternal nutrition have been made to 78 groups. Nutrition staff had 8,600 counseling sessions with maternity patients and 11,000 counseling sessions on child health nutrition. Nutritionists consulted on or saw 64 home health patients. Two hundred fifty-five patients referred by private physicians were seen.

Nutritionists helped with the heptachlor problems. Staff members helped establish procedures for breast milk sampling. They consulted with the epidemiologists on the client food questionnaire. Nutritionists interviewed clients and answered questions on the phone hotline.

Nutrition staff increased their education of allied professional groups. A two month field experience for two graduate students and one week of public health nutrition for 14 dietetic interns were provided. Staff presented at the State Women's Health Conference, March of Dimes Regional Conference, State Health Fraud Meeting and the Dallas Nutrition for the Chronically Ill/Disabled Child Conference.

Staff members did 19 inservice sessions for health department personnel. They also developed videotapes or audiovisuals for professionals and consumers.

The Division is particularly proud of several accomplishments:

- A staff member is beginning a nutrition care program for chronically ill/disabled children through Children's Medical Services.
- Three nutritionists were named as Employee of the Month. One of these was named a field Employee of the Year.
- Two staff members published articles in *The Journal of the Arkansas Medical Society*.
- Two out-of-state speakers were sponsored for allied groups. Both are nationally known for their expertise; one in nutrition and health fraud, and the other in nutrition and heart problems.

DIVISION OF RECORDS AND CLERICAL SERVICES

Local Health Unit clerks began issuing WIC vouchers in October. Clerical issuance will be easier for patients.

A Paperwork Committee was established to reduce paperwork in Local Health Units.

The Division began microfilming records in Local Health Units.

The Division trained area supervisors and local staff. Proper classification of Local Health Unit clerks was reviewed. The Division also updated forms and clerical procedures.

Bureau of Public Health Programs
Charles McGrew, Director

DIVISION OF HEALTH STATISTICS AND EPIDEMIOLOGY

Heptachlor

In March, shortly after learning of the potential exposure of humans to aflatoxins and heptachlor in milk and meats, epidemiologists from ADH and the Centers for Disease Control (CDC) located 11 families living on proven contaminated farms and collected specimens of blood and urine. In five families, apparently elevated levels of heptachlor-related compounds were detected in blood. In two families, small quantities of aflatoxins were detected in urine.

To gather information about the background levels of heptachlor among Arkansas dairy farmers, epidemiologists located volunteers on non-contaminated dairy farms for blood tests. Approximately 40 families volunteered. Results indicated generally low, but detectable, levels of heptachlor-related compounds are present among this population and confirmed that levels initially detected in March were elevated.

Responding to the Governor's offer to test breast milk, ADH epidemiologists worked with local health units and

nutritionists in collecting breast milk samples. Survey questionnaires and procedures were designed and arrangements were made with five laboratories in other states to carry out testing of more than 900 specimens. Analysis of laboratory results is underway.

In September, the Environmental Protection Agency (EPA) awarded $90,000 to UAMS and ADH for follow-up of the heptachlor exposure. ADH epidemiologists are currently participating in designing studies of persons potentially exposed and are planning a workshop for representatives of agencies involved in the investigations of aflatoxin and heptachlor exposure.

Environmental Exposures

Epidemiologists from the Division worked with the Centers for Disease Control (CDC) on the assessment of phenol exposure in Jacksonville. This study is the first in Arkansas to attempt to assess community exposure to phenols and herbicides. Urine specimens were collected from 100 children, two to six years of age, in both Jacksonville and Conway. Conway children served as a control group. Complete laboratory support was given by the environmental laboratory at CDC. The results of the lab reports are now being analyzed.

Another study undertaken by ADH and CDC epidemiologists is the possibility of PCB exposure in El Dorado and Union County. An epidemiologist collected 30 PCB-serum specimens from adults aged 18 and over who lived within a one-mile radius of the ENSCO plant. Results are not yet ready.

SECTION OF MATERNAL AND CHILD HEALTH

WIC Program

The Special Supplemental Food Program for Women, Infants and Children (WIC) had an average monthly caseload of 32,806 during FY'86.

Several administrative improvements were made during the year. The Program successfully completed a transition in field staff which resulted in more cost effective service delivery. The vendor compliance unit was implemented to monitor vendor operations and to detect potentially fraudulent activities among participating stores. In cooperation with the Center for Disease Control, the Program began a Pediatric Nutrition Surveillance System. The Surveillance system will compare the state's risk-related data with national data and provide indicators for high risk intervention.

The WIC staff was also involved with program policy development on the national level. The WIC Director served on a task force to develop vendor operation standards and has also been selected to participate in developing a new national formula for distribution of funding to states. The WIC Nutrition Consultant served on a national committee to establish evaluation standards for nutrition education.

Hearing, Speech and Vision Services

During FY 85-86, the clinics in Little Rock and Forrest City provided 1,808 speech, language and audiology evaluations. There were 1,850 units (1/2 hour) of therapy services provided. The total number of children seen for diagnostic services was 1,172.

The Infant Hearing Program, designed to provide a means of identifying hearing loss in newborns, operates in eight counties of western, central and eastern Arkansas. Of the 6,083 births reported in this area in 1986, 930 were considered at risk for a hearing loss. Auditory brainstem response screenings were conducted on 607 high risk infants. Sixty-eight screened positive for a hearing loss. The personnel in this program work closely with the primary health care provider in assisting with quality follow-up care.

The Vision and Hearing Screening program participated in the screening of 62,535 children for hearing and 61,802 for vision problems. 5,202 children were referred for follow-up services with local health care providers.

Family Planning Program

Family Planning clinics were conducted in all 75 counties during 1986. A total of 47,224 women received family planning services at 96 Health Department and 9 contractual clinic sites. Regional vasectomy clinics provided 169 vasectomies during 1986.

Through a contract with the Arkansas Family Planning Council, sexuality education presentations were made to an estimated 70,000 (duplicated) adolescents in the public schools.

Maternity

During FY 86 the Maternity Program expanded its services to Arkansas women by increasing the number of clinics to 72 sites located in 57 counties. The patient caseload increased by 5.6% to 9,402 patients, and prenatal visits increased by 11% to 44,201 visits.

On April 1, 1986, the Arkansas Department of Health assumed full administration and supervision of two nurse midwife programs in east Arkansas. These two programs, located in Crittenden County and in Lee and Phillips Counties, were combined and coordinated with the Mississippi County Nurse Midwife Program and renamed the East Arkansas Nurse Midwife Program. Six nurse midwives, practicing under the direction of local physicians, provide low cost hospital delivery for low risk women. Regular examinations are provided during the prenatal and postpartum periods. Special emphasis is placed on enrolling women from medically and financially indigent families. During FY'86 the nurse midwives delivered 471 babies.

On September 15, 1986, the Arkansas Department of Health and Jefferson Comprehensive Care Center, Inc. formed a consortia to provide prenatal care in Jefferson, Cleveland, and Lincoln Counties. The Consortium members provide prenatal care, delivery, and home visits for early discharge mothers and babies.

The Healthy Beginnings Program provided prenatal education classes for 2,083 maternity patients. Another

16,180 persons attended sexuality education and related health education classes in the nine county area of East Arkansas.

Child Health

The Well Child Clinic Program experienced a 54% increase in caseload in 1986, serving a total of 28,490 children. Major reasons for the patient increase were the expansion of maternity services and changes in the Women, Infant and Children's Supplemental Food Program which increased the number of newborns and infants seen in clinic.

The Child Safety Seat Program purchased an additional 400 toddler seats during 1986. A total of 2,500 infant seats and 2,000 toddler seats are now available for rental to the public.

SECTION OF ENVIRONMENTAL AND HEALTH MAINTENANCE

In-Home Services

Long-term care

The availability of private pay services has been a critical missing element of the long-term care system in Arkansas. Included are nursing and aide services. This new service by ADH means that many additional individuals may be served according to the needs which they themselves perceive, as opposed to the services dictated by third party payors.

The agency has historically offered personal care services (under Medicaid only) in 10 counties of Arkansas. To date, this has been expanded to 25 counties, with plans to ultimately include approximately 60 counties. This service is also offered to private-pay clients on a sliding fee basis.

Acute Care

Acute eare admissions are up approximately 20% compared to the previous year. It is projected that the acute care component alone will provide care for about 6,000 very ill persons in their home during FY'87. On any given day, approximately 1,500 persons are under the care of local nursing and physical therapy staff.

In an effort to better serve the post-hospital client who is much sicker, hospital agreements have been established with 8 hospitals and one isolated retirement community. The two major IV infusion therapy pharmaceutical companies in Arkansas have signed preferred provider agreements with ADH. These agreements facilitate continuity of care for patients.

Office of Emergency Medical Service

During 1986 an Intermediate level of service licensure and certification of personnel was established, allowing limited Advanced Life Support procedures to be performed on victims of sudden illness or accident. The EMS services for Sebastian and Crawford Counties became the first Intermediate licensees.

Tuberculosis Program

An outbreak of pulmonary TB was identified at the Union Rescue Mission. Eight cases were found and started on rifampin and isoniazid. PPD skin tests were performed on about 100 residents, with about 50% showing a significant reaction. Persons not infected were started on preventive therapy with INH. A way to continuously sterilize the air in the sleeping room at the mission has been devised which should further reduce the chance of spread of the infection.

During 1986 there was also a minor outbreak of TB at Cummins Prison. This occurred when a case of TB went undiagnosed for several weeks. General tuberculin testing was carried out to identify those who had become infected since admission and preventive therapy has been begun.

Sexually Transmitted Diseases

The reported venereal disease morbidity for this period shows a decrease in cases of gonorrhea and syphilis as compared to the same reporting period for 1985. A total of 8,883 gonorrhea eases (a 6.1% decrease) and 444 syphilis cases (a 19.1% decrease) have been reported in January-November 1986.

Through November 24, 1986, a total of 41 cases of AIDS have been reported in Arkansas. These include residents of 21 different Arkansas counties. HTLV-III antibody testing continues to be offered at the Pulaski County Health Department and to private physicians submitting specimens to the State Health Laboratory. Through November 28, 1986, a total of 283 clinic patients (38 positive) have been tested and counseled and 584 specimens (71 positive) have been tested for private physicians.

The Arkansas AIDS Hotline was implemented November 10, 1986. The hotline is operational Monday through Friday, 8:00 a.m. to 4:30 p.m. Persons calling on evenings, weekends, or holidays receive recorded information. The hotline provides information on written and audiovisual materials, support group services, and a statewide Speakers Bureau. Hotline operators are experienced in handling AIDS related issues and can provide up-to-date facts on AIDS. The hotline number is 1-800-445-7720.

Epizootic Diseases

The Communicable Disease Office has been working with the Centers for Disease Control (CDC) in investigating a newly-discovered disease in Arkansas. The disease, ehrlichiosis, has been known to oecur in dogs in Arkansas and is similar to Rocky Mountain Spotted Fever (RMSF). Preliminary results of the study indicate that the infection has occurred in many Arkansas residents, but may not have been diagnosed due to the similarity to RMSF. The Communicable Disease Office is working with physicians throughout the state to assist CDC in

defining the epidemiology, natural history and clinical features of this disease.

Immunization Program

Hospital Based Maternal Education Program

The hospital-based Maternal Education Program is currently conducted in all hospitals and clinics in Arkansas that have maternity facilities. Approximately 29,000 new mothers were contacted in 1986 and provided with record cards and information on immunizations. The program also provided audiovisuals for 54 hospitals to use on their educational channels, in prenatal or prepared childbirth classes, and in discharge classes.

A prime objective of the Maternal Education Program this year was to develop an immunization follow-up tracking system in each hospital. There are currently 49 hospitals participating in follow-up programs consisting of phone calls and/or post card mailings to encourage parents to have their infants immunized on schedule. An evaluation is being planned to determine whether this activity has a significant impact on children entering the health care delivery system sooner.

School and Day Care Surveys

The 1984/1985 School and Day Care Facility Survey provided the following results:

Kindergarten-First Grade

Vaccine Category	Percent Immunized
Polio (3+ doses)*	94
DTP/Td/DT (3+ doses)*	94
Measles	98
Rubella	98
Mumps	96
Combinations	
P(3+), DTP(3+), M,R	94
P(3+), DTP(3+), M, R, MPS	Unknown

*At least one dose after fourth birthday.

Preschool Children

Vaccine Category	Day Care % Immunized	Head Start % Immunized
Polio	88	96
DTP/Td/DT (3+ doses)	90	97
Measles	83	98
Rubella	83	98
Mumps	83	98
Combinations		
P(3+), DTP(3+), M,R	79	94
P(3+), DTP(3+), M,R,MPS	Unknown	

*It should be noted that the Head Start survey counts only those children over 19 months of age, while the day care survey includes Infant and Toddler programs (children younger than 19 months of age).

Measles Outbreak

On Saturday, February 8, four cases of measles were reported to the Student Health Service of the University of Arkansas at Fayetteville. The Director of the Student Health Service and the Vice Chancellor for Student Services issued an immediate measles alert to students and began a campaign to vaccinate susceptibles on campus.

On Sunday, flyers were distributed throughout the campus and placed in the rooms of units in which the cases lived. Arrangements were made for mass clinics to be held at the Student Union, the Student Health Center and at four cafeterias. On Monday, Student Health Service nurses vaccinated a sorority, a fraternity, and the entire basketball team, since one of the first cases was a varsity basketball player.

Efforts to supply additional vaccine from the Immunization Program to the University were hampered by an ice storm, which caused the closing of all roads to Fayetteville and prevented any air travel to that area. Fortunately, the Arkansas State Police were successful in delivering vaccine in time for the mass clinics, which began February 12. Within three days, 4,105 doses of vaccine were administered on campus, utilizing both University and State Health Department employees. Total vaccine administered on campus reached 6,500 doses (50% of the 13,000 enrolled).

Cases on campus continued to occur, though at a greatly reduced rate, until March 21. A total of 67 confirmed cases were reported among U of A students and employees. The most likely settings for the first generation of spread (25 cases on campus) were varsity basketball games played January 25 and January 27.

During the outbreak on campus, the Immunization Program was provided with a communications headquarters to facilitate the epidemiologic follow-up. Suspect cases were interviewed as they were diagnosed and contacts were advised immediately to (1) check their immunization status, (2) isolate themselves at the first signs of cold symptoms, and (3) report any febrile rash illness to the Student Health Service or the local health unit.

The reporting of rash illnesses was greatly enhanced by the installation of a special Measles Hotline (575-SICK) that was widely publicized on campus and throughout the community. The Hotline received 40-60 calls a day during the peak of the epidemic from individuals who wanted to report a rash illness, learn about measles and its symptoms, inquire about clinic hours and sites, report a vaccine reaction, or just assure themselves that their vaccine status was adequate.

From the U of A campus the measles epidemic spread to neighboring communities in Washington and Benton Counties. Several junior high school students from Benton County had attended the basketball games mentioned earlier and became ill during the same period as the first U of A cases (February 6-12). Those cases subsequently led to very explosive outbreaks that affected 25 schools in the area. Forty-eight confirmed cases were reported in Washington County, exclusive of the campus cases, and 113 cases were reported from Benton County. The next highest county total was 18 in Johnson County.

Record reviews of junior and senior high school children conducted February 20-22 revealed an unusually large number of cases among students who had been

previously immunized between 12 and 15 months of age: 43% in Washington County and 33% in Benton County. This discovery led to a decision by the Director of Health, in conjunction with the Centers for Disease Control, to require children who were vaccinated between 12 and 15 months to be revaccinated.

This policy, as well as publicity surrounding the measles epidemic itself, generated a great deal of public interest in receiving measles vaccine. Special after-hour, weekend, or school clinics were held by virtually every local health unit in the state. Over 92,000 doses of measles vaccine were administered in public health programs.

From Washington and Benton Counties the outbreak appeared to spread rapidly across the state. As of April 22, 489 febrile rash illnesses had been reported from 53 counties. However, after epidemiologic follow-up and serological testing (in 134 cases), the number of confirmed cases was reduced to 273 from 14 counties. Sixty-six cases were confirmed by serologic testing; the rest through epidemiologic linkage. The last date of onset of a confirmed case was April 6.

In only five counties were there more than one generation of spread. This was most likely the result of rapid containment procedures, including vaccine delivery in the schools and exclusion of students with exemptions, as soon as suspected cases were reported. During the month of March, almost every school record in Arkansas was checked for measles vaccine history (430,000) by school nurses and public health nurses in preparation for the introduction of a measles case. Within 48 hours of report of a clinically compatible case of measles, students without documentation of measles vaccination after 15 months of age were excluded from school and special clinics were held if warranted.

The vaccination status of the 273 confirmed cases is as follows:

Unvaccinated	74 (27%)
Vaccinated under a year	33 (12%)
Vaccinated at 12 to 15 months	52 (19%)
Vaccinated at 15+ months	114 (42%)

In addition, 19 cases occurred among children who were unimmunized but under the age of 15 months at the time of rash onset, and 9 eases occurred among adults born before 1957. Therefore, 197 of the cases (72%) were non-preventable, while 76 (28%) were preventable. Many of the unvaccinated cases were college students who were not sure of their vaccine status.

In March an E.I.S. Officer from CDC conducted a case-control study in the junior high school mentioned above. Preliminary results of the study of age-at-vaccination vs relative risk of disease revealed a significantly increased risk of disease in individuals vaccinated between 12 and 15 months of age compared to those who were immunized at 15 months or older (Odds ratio = 6.5; p value = 0.016). This finding has supported our policy of revaccinating those children immunized at 12-15 months.

The study also demonstrated the effect of immediate action (record reviews and appropriate immunizations) on the number of cases experienced by a school. The junior high school referred to above (School A) is within 3 miles of another junior high school (School B). It is about the same size, has about the same socio-economic mix, has basically the same immunization levels, and has the same school nurse. Yet School A had 51 cases; School B, just 2. The only difference was that School A was about 7 days further along with its outbreak than was School B when the decision was made to audit records and hold special clinics in both schools (and the high school) on the same day. The inference from this observation is that a wait of as little as seven days after the introduction of an index case may negate the effect of control measures in a school.

Rape Crisis Program

The Rape Crisis Program contracted for various rape prevention activities and services to rape victims during the past year, such as:

The Department of Human Service, Division of Aging and Adult Services, provided sexual assault prevention, education and treatment information concerning senior citizens to staff members. In addition, two articles pertaining to sexual assault appeared in a statewide newsletter for senior citizens and a booklet on sexual assault prevention was developed and distributed statewide to 210 senior citizen centers. The booklet was also shared with other state agencies, community groups and on the national level with other aging programs. This was the first project in Arkansas dealing with the issue of sexual assault of senior citizens.

The Arkansas Commission on Law Enforcement Standards and Training led a two-day seminar conducted by the FBI for criminal investigators, prosecuting attorneys, and managers of criminal investigation divisions, to acquaint them with the investigation tool of psychologically profiling the perpetrators of violent crimes.

Six hundred (600) copies of the manual "The Sexual Assault Examination and Reimbursement Manual: Guidelines for Arkansas Hospitals" was printed and distributed to Arkansas hospitals. The Arkansas Hospital Association worked on this project with the Rape Crisis Program. The manuals provide information concerning treating sexual assault victims, the reimbursement program, and the free sexual assault evidence collection kits.

Bureau of Administrative Support Services

Tom S. Butler, Director

DIVISION OF PERSONNEL

The Division now has a fully operational Performance Evaluation system. All agency managers have been

trained, employees have been informed, and evaluations are underway.

The Division reduced its staff by three positions since the beginning of the year. Maintaining a quality level of performance with fewer staff members has become a priority. Staff duties have been reorganized twice within six months with no appreciable loss of services to other divisions.

DIVISION OF FINANCIAL MANAGEMENT

For the first time, a computerized budget was submitted for FY'87. This was accomplished through the coordinated efforts of the Departments of Finance and Administration and Computer Services and the agency's Divisions of Data Processing and Financial Management. This automated approach will enable the agency to update the budget when revenue projections are adjusted.

A vehicle gasoline credit card and telephone credit card data base was created. This facilitates retrieval of information by bureau, user or control number.

A computerized savings bond listing has been created. The list provides buyers with information on receipt of bonds as well as co-owners and beneficiaries.

DIVISION OF DATA PROCESSING

The agency's computer system became more interactive. Data entry employees were moved out of the Division and into programs using data processing services. Additionally, all batch type programs have been converted to the interactive format.

Among the thirty-four major projects completed this year were projects for Vital Records, WIC, agency licensing, Blood Alcohol, Central Supply and Public Health Labs. Nine new projects are underway and will be completed by July.

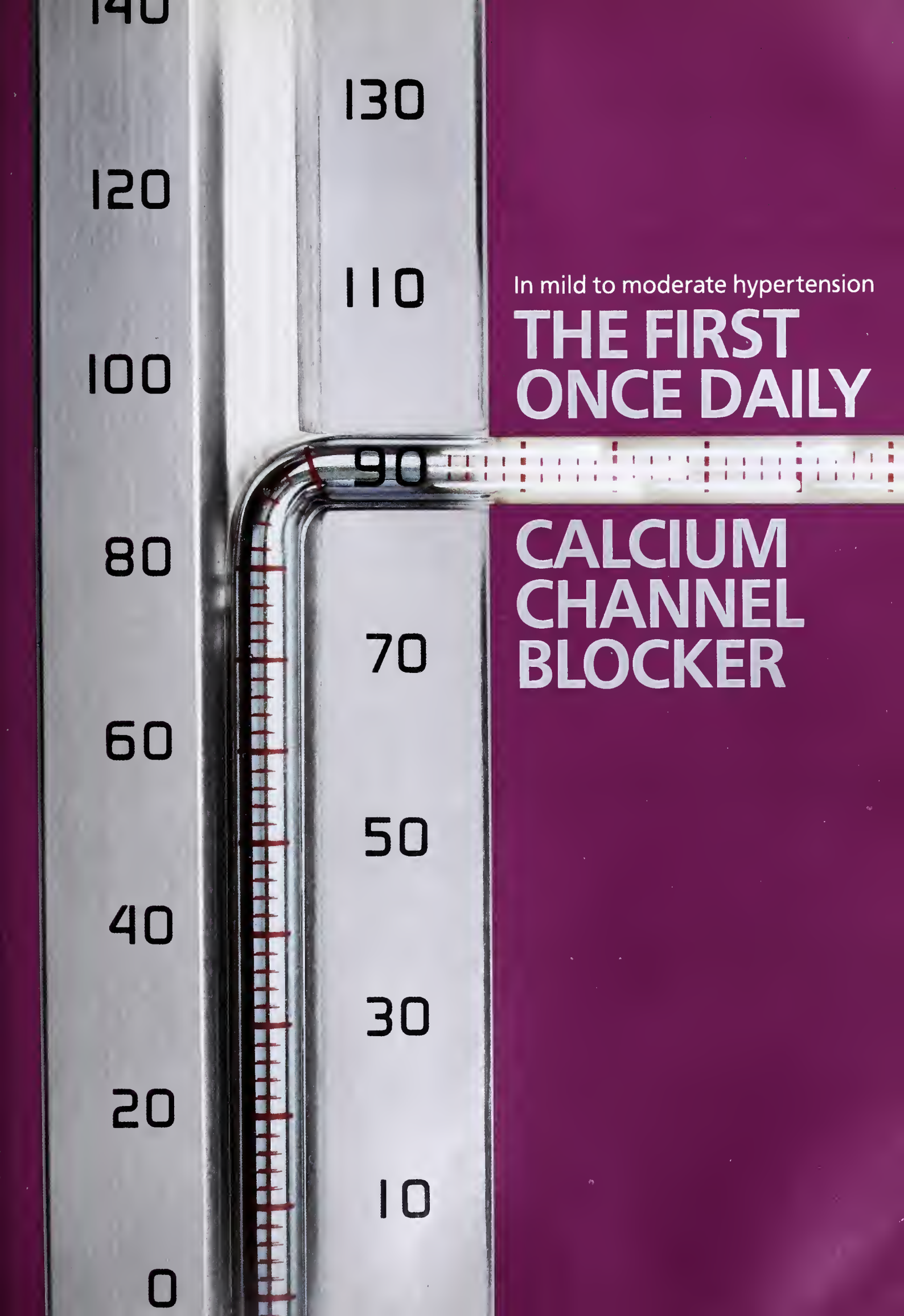
Data Processing training classes were attended by over eighty employees, representing nearly 1,000 hours of instruction.

DIVISION OF VITAL RECORDS

A reliability and statistical study of birth certification information was conducted in eight hospitals. Two client services surveys were conducted. One of the most significant findings was that 90% of the clients served are satisfied with our services.

As a result of several years planning and preparation, the Division began issuing automated birth certificates.





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NEW
ONCE DAILY



ISOPTIN® SR*

(verapamil HCl/Knoll)

240 mg scored, sustained-release tablets



JAMES B.
38, black male, heavy smoker. Prescribed a diuretic by another physician last year for hypertension.

YOUR CONCERNS
Presents with "smoker's cough." Workup reveals a BP of 150/107.

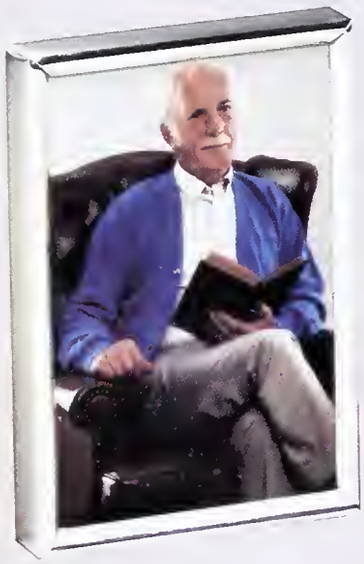
A LOGICAL CHOICE FOR CONTROL OF HIS BP
ISOPTIN® (verapamil HCl/Knoll) because...
— Black hypertensives often have low plasma renin activity and generally do not respond favorably to beta blockers.
— Beta blockers may increase the likelihood of bronchospasm.

ALICE W.
65, diabetic, overweight. Her BP has elevated to 190/98.

YOUR CONCERNS
She's on daily insulin.

A LOGICAL CHOICE FOR CONTROL OF HER BP
ISOPTIN® (verapamil HCl/Knoll) because...
— Unlike most beta blockers and diuretics, ISOPTIN has no adverse effects on serum glucose levels.
— Unlike most beta blockers, ISOPTIN does not mask the symptoms of hypoglycemia.





THOMAS G.
70, asthmatic. In the past, BP adequately controlled with 25 mg hydrochlorothiazide daily.

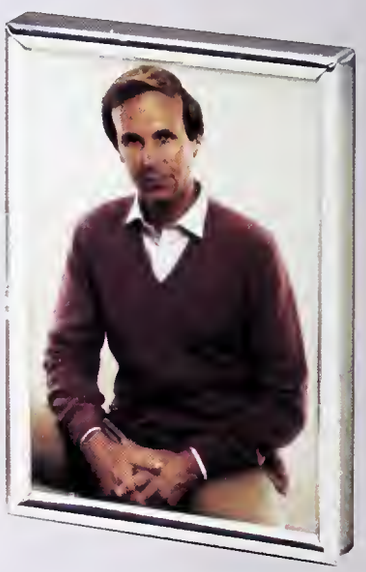
YOUR CONCERNS
Today patient presents with symptoms of gout. Workup reveals high uric acid level, low serum potassium, and BP elevated to 180/98.

A LOGICAL CHOICE FOR CONTROL OF HIS BP
ISOPTIN® (verapamil HCl/Knoll) because...
— Unlike diuretics, ISOPTIN will not decrease serum potassium levels or elevate uric acid levels.
— Unlike beta blockers, ISOPTIN can be used safely in asthma and COPD patients.

JOHN K.
42, Annual physical uncovered diastolic BP of 102... confirmed on three successive office visits. Unresponsive to nonpharmacologic intervention.

YOUR CONCERNS
Salesman, spends many hours of his working day in car... total cholesterol level 300, HDL 35.

A LOGICAL CHOICE FOR CONTROL OF HIS BP
ISOPTIN® (verapamil HCl/Knoll) because...
— Unlike diuretics, ISOPTIN does not cause urinary urgency.
— Unlike either beta blockers or diuretics, ISOPTIN will not adversely affect his already seriously compromised lipid profile.
— Unlike with propranolol, fatigue and impotence are rarely reported.



Antihypertensive therapy you and your patients can live with

*A product of Knoll research.

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ISOPTIN® SR
(verapamil HCl/Knoll)
240 mg scored, sustained-release tablets

CONTRAINDICATIONS: 1) Severe left ventricular dysfunction (see WARNINGS), 2) Hypotension (less than 90 mmHg systolic pressure) or cardiogenic shock, 3) Sick sinus syndrome or 2nd or 3rd degree AV block (except in patients with a functioning artificial ventricular pacemaker).

WARNINGS: Heart Failure: ISOPTIN should be avoided in patients with severe left ventricular dysfunction (see DRUG INTERACTIONS). Patients with milder ventricular dysfunction should, if possible, be controlled before verapamil treatment. Hypotension: ISOPTIN (verapamil HCl) may produce occasional symptomatic hypotension. Elevated Liver Enzymes: Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Periodic monitoring of liver function in patients receiving verapamil is therefore prudent. Accessory Bypass Tract (Wolff-Parkinson-White): Patients with paroxysmal and/or chronic atrial flutter or atrial fibrillation and a coexisting accessory AV pathway have developed increased antegrade conduction across the accessory pathway producing a very rapid ventricular response or ventricular fibrillation after receiving intravenous verapamil. While this has not been reported with oral verapamil, it should be considered a potential risk. Treatment is usually D.C.-cardioversion. Atrioventricular Block: The effect of verapamil on AV conduction and the SA node may cause asymptomatic 1st degree AV block and transient bradycardia. Higher degrees of AV block, while infrequent (0.8%), may require a reduction in dosage or, in rare instances, discontinuation of verapamil HCl. Patients with Hypertrophic Cardiomyopathy (IHSS): Although verapamil has been used in the therapy of patients with IHSS, severe cardiovascular decompensation and death have been noted in this patient population.

PRECAUTIONS: Impaired Hepatic or Renal Function: Verapamil is highly metabolized by the liver with about 70% of an administered dose excreted in the urine. In patients with impaired hepatic or renal function verapamil should be administered cautiously and the patients monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacological effects (see OVERDOSAGE).

Drug Interactions: Beta Blockers: Concomitant use of ISOPTIN and oral beta-adrenergic blocking agents may be beneficial in certain patients with chronic stable angina or hypertension, but available information is not sufficient to predict with confidence the effects of concurrent treatment in patients with left ventricular dysfunction or cardiac conduction abnormalities. Digitalis: Clinical use of verapamil in digitalized patients has shown the combination to be well tolerated if digoxin doses are properly adjusted. However, chronic verapamil treatment increases serum digoxin levels by 50 to 75% during the first week of therapy and this can result in digitalis toxicity. Upon discontinuation of ISOPTIN (verapamil HCl), the patient should be reassessed to avoid underdigitalization. Antihypertensive Agents: Verapamil administered concomitantly with oral antihypertensive agents (e.g., vasodilators, angiotensin-converting enzyme inhibitors, diuretics, beta blockers, prazosin) will usually have an additive effect on lowering blood pressure. Patients receiving these combinations should be appropriately monitored. Disopyramide: Disopyramide should not be administered within 48 hours before or 24 hours after verapamil administration. Quinidine: In patients with hypertrophic cardiomyopathy (IHSS), concomitant use of verapamil and quinidine resulted in significant hypotension. There has been a report of increased quinidine levels during verapamil therapy. Nitrates: The pharmacologic profile of verapamil and nitrates as well as clinical experience suggest beneficial interactions. Cimetidine: Two clinical trials have shown a lack of significant verapamil interaction with cimetidine. A third study showed cimetidine reduced verapamil clearance and increased elimination to 1/2. Anesthetic Agents: Verapamil may potentiate the activity of neuromuscular blocking agents and inhalation anesthetics. Carbamazepine: Verapamil may increase carbamazepine concentrations during combined therapy. Rifampin: Therapy with rifampin may markedly reduce oral verapamil bioavailability. Lithium: Verapamil may lower lithium levels in patient on chronic oral lithium therapy. Carcinogenesis, Mutagenesis, Impairment of Fertility: There was no evidence of a carcinogenic potential of verapamil administered to rats for two years. Verapamil was not mutagenic in the Ames test. Studies in female rats did not show impaired fertility. Effects on male fertility have not been determined. Pregnancy (Category C): There are no adequate and well-controlled studies in pregnant women. ISOPTIN crosses the placental barrier and can be detected in umbilical vein blood at delivery. This drug should be used during pregnancy, labor, and delivery, only if clearly needed. Nursing Mothers: ISOPTIN is excreted in human milk, therefore, nursing should be discontinued while verapamil is administered. Pediatric Use: Safety and efficacy of ISOPTIN in children below the age of 18 years have not been established.

ADVERSE REACTIONS: Constipation 8.4%, dizziness 3.5%, nausea 2.7%, hypotension 2.5%, edema 2.1%, headache 1.9%, CHF/pulmonary edema 1.8%, fatigue 1.7%, bradycardia 1.4%, 3° AV block 0.8%, flushing 0.1%, elevated liver enzymes (see WARNINGS). The following reactions, reported in less than 1.0% of patients, occurred under conditions (open trials, marketing experience) where a causal relationship is uncertain; they are mentioned to alert the physician to a possible relationship: angina pectoris, arthralgia and rash, AV block, blurred vision, cerebrovascular accident, chest pain, claudication, confusion, diarrhea, dry mouth, dyspnea, ecchymosis or bruising, equilibrium disorders, exanthema, gastrointestinal distress, gingival hyperplasia, gynecomastia, hair loss, hyperkeratosis, impotence, increased urination, insomnia, macules, muscle cramps, myocardial infarction, palpitations, paresthesia, psychotic symptoms, purpura (vasculitis), shakiness, somnolence, spotty menstruation, sweating, syncope, urticaria. Treatment of Acute Cardiovascular Adverse Reactions: Whenever severe hypotension or complete AV block occur following oral administration of verapamil, the appropriate emergency measures should be applied immediately, e.g., intravenously administered isoproterenol HCl, levarterenol bitartrate, atropine (all in the usual doses), or calcium gluconate (10% solution). If further support is necessary, inotropic agents (dopamine or dobutamine) may be administered. Actual treatment and dosage should depend on the severity and the clinical situation and the judgment and experience of the treating physician.

OVERDOSAGE: Treatment of overdosage should be supportive. Beta-adrenergic stimulation or parenteral administration of calcium solutions may increase calcium ion flux across the slow channel, and have been used effectively in treatment of deliberate overdosage with verapamil. Clinically significant hypotensive reactions or fixed high degree AV block should be treated with vasopressor agents or cardiac pacing, respectively. Asystole should be handled by the usual measures including cardiopulmonary resuscitation.

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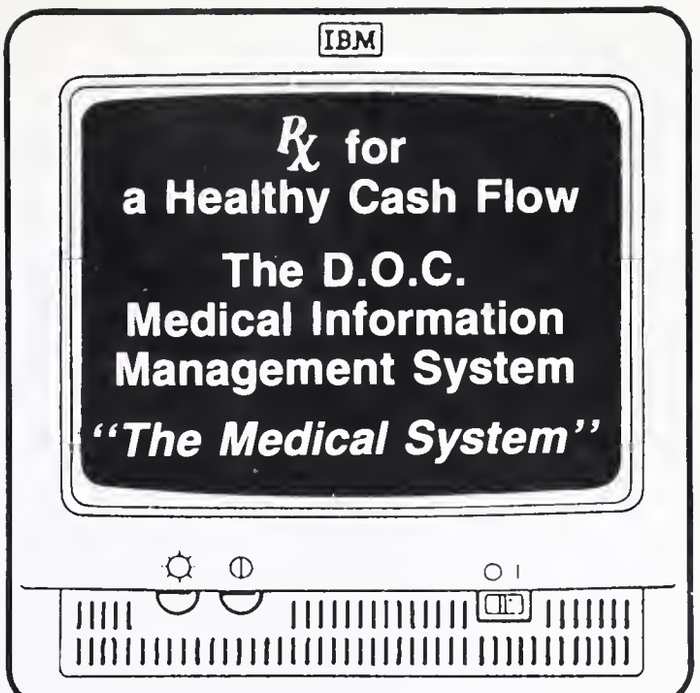
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Ulcer therapy that won't go up in smoke

- For over 50 years, reports in the medical literature have linked cigarette smoking and duodenal ulcer disease.[1] While it is obviously in the patient's best interest to quit smoking, this does not always occur.
- "The adverse effect of cigarette smoking on the healing rate of duodenal ulcers has been demonstrated in patients treated with placebo, antacid, cimetidine, or ranitidine."[2]
- However, a recently published study[3] indicates that CARAFATE® (sucralfate) offers equally efficacious healing rates in smokers and nonsmokers.

Carafate Healing Rates[3]

4 Weeks	
Smokers	78% (31/40)
Nonsmokers	74% (25/34)
8 Weeks	
Smokers	83% (33/40)
Nonsmokers	85% (29/34)

- Carafate works through a unique, nonsystemic mechanism of action that enhances the body's own natural healing ability and protects the damaged mucosa from further injury.
- Next time you are faced with a duodenal ulcer patient who refuses to quit smoking, Carafate is a logical choice.



CARAFATE®
sucralfate/Marion

Please see adjoining page for references and brief summary of prescribing information.

CARAFATE®
sucralfate/Marion

BRIEF SUMMARY

CONTRAINDICATIONS
There are no known contraindications to the use of sucralfate.

PRECAUTIONS
Duodenal ulcer is a chronic, recurrent disease. While short-term treatment with sucralfate can result in complete healing of the ulcer, a successful course of treatment with sucralfate should not be expected to alter the post-healing frequency or severity of duodenal ulceration.

Drug Interactions: Animal studies have shown that the simultaneous administration of CARAFATE with tetracycline, phenytoin, or cimetidine will result in a statistically significant reduction in the bioavailability of these agents. This interaction appears to be nonsystemic in origin, presumably resulting from these agents being bound by CARAFATE in the gastrointestinal tract. The bioavailability of these agents may be restored simply by separating the administration of these agents from that of CARAFATE by two hours. The clinical significance of these animal studies is yet to be defined.

Carcinogenesis, Mutagenesis, Impairment of Fertility: No evidence of drug-related tumorigenicity was found in chronic oral toxicity studies of 24 months' duration conducted in mice and rats at doses up to 1 gm/kg (12 times the human dose). A reproduction study in rats at doses up to 38 times the human dose did not reveal any indication of fertility impairment. Mutagenicity studies have not been conducted.

Pregnancy: Pregnancy Category B. Teratogenicity studies have been performed in mice, rats, and rabbits at doses up to 50 times the human dose and have revealed no evidence of harm to the fetus due to sucralfate. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when sucralfate is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS
Adverse reactions to sucralfate in clinical trials were minor and only rarely led to discontinuation of the drug. In studies involving over 2,500 patients, adverse effects were reported in 121 (4.7%). Constipation was the most frequent complaint (2.2%). Other adverse effects, reported in no more than one of every 350 patients, were diarrhea, nausea, gastric discomfort, indigestion, dry mouth, rash, pruritus, back pain, dizziness, sleepiness, and vertigo.

DOSAGE AND ADMINISTRATION
The recommended adult oral dosage for duodenal ulcer is 1 gm four times a day on an empty stomach.

Antacids may be prescribed as needed for relief of pain but should not be taken within one-half hour before or after sucralfate.

While healing with sucralfate may occur during the first week or two, treatment should be continued for 4 to 8 weeks unless healing has been demonstrated by x-ray or endoscopic examination.

HOW SUPPLIED
CARAFATE (sucralfate) 1-gm pink tablets are supplied in bottles of 100 and in Unit Dose Identification Paks of 100. The tablets are embossed with MARION/1712. Issued 3/84

References:
1 U.S. Department of Health, Education, and Welfare, Office of the Surgeon General, *Smoking and Health: A Report of the Surgeon General*. Rockville, MD, U.S. Department of Health, Education, and Welfare, Public Health Service, 1979.
2 Richardson CT. Pathogenetic factors in peptic ulcer disease. *Am J Med* 79 (suppl 2C) 1-7, 1985.
3 Brandstaetter G, Kratochvil P. Comparison of two sucralfate dosages (2 g twice a day versus 1 g four times a day) in duodenal ulcer healing. *Am J Med* 79 (suppl 2C) 36-38, 1985.

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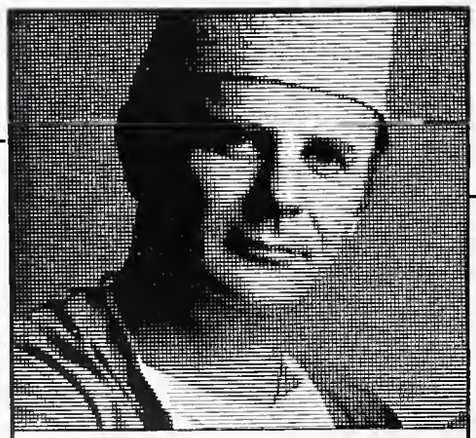
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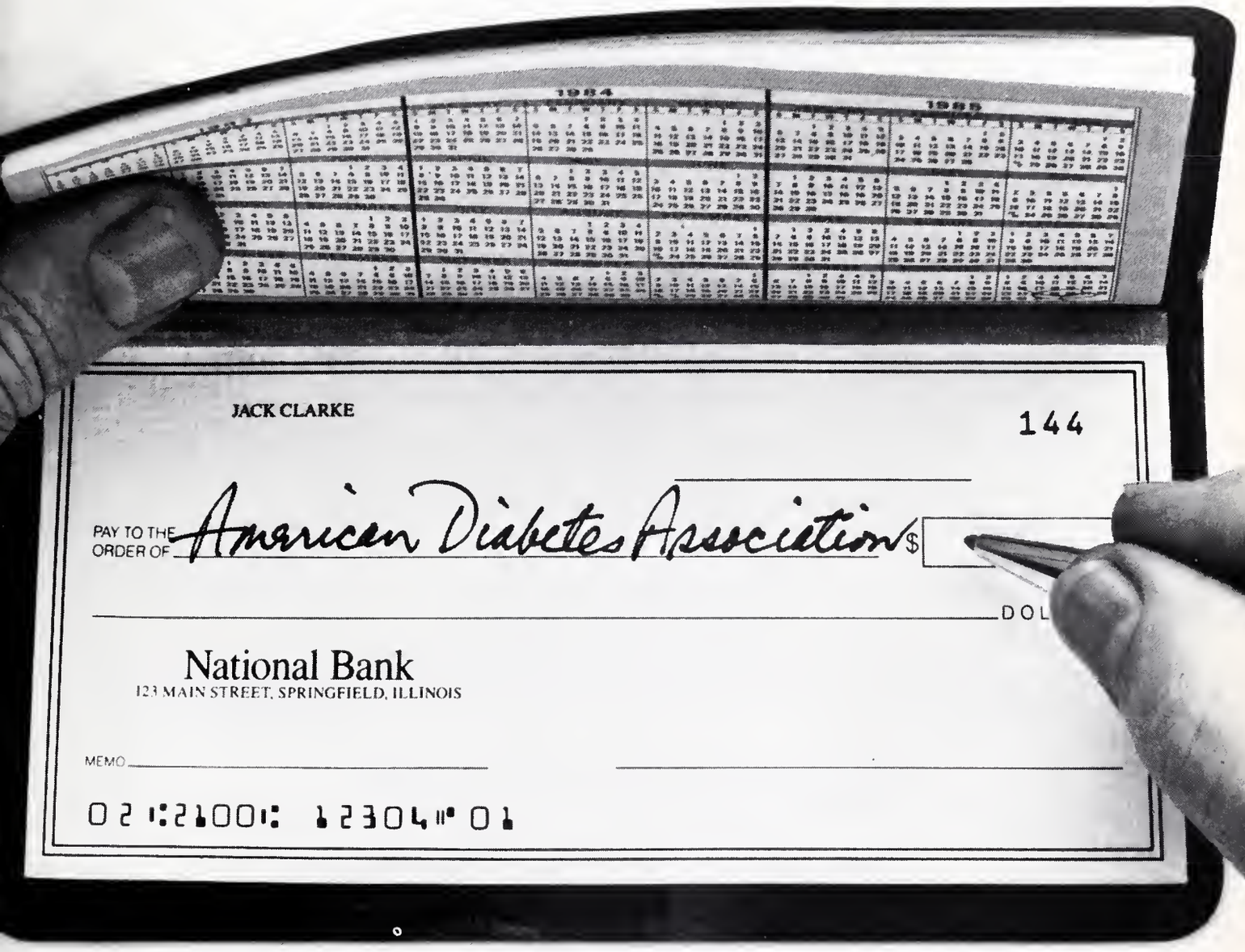
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CONFIRMED BY CLINICAL EVIDENCE

ZANTAC® 150 h.s.

ranitidine HCl/Glaxo 150 mg tablets

EFFECTIVE MAINTENANCE THERAPY

for healed duodenal ulcer patients

CONFIRMED

In two randomized, double-blind, and well-controlled clinical trials, ZANTAC 150 mg h.s. significantly superior to cimetidine 400 mg h.s. for maintenance therapy in healed duodenal ulcers.

Percent of patients with observed duodenal ulcer recurrence

		0-4 months	0-8 months	0-12 months	No. patients
USA[1]	ranitidine 150 mg h.s.	9%	14%*	16%†	60
	cimetidine 400 mg h.s.	23%	34%	43%	66
UK, Ireland, Australia[2]	ranitidine 150 mg h.s.	8%‡	14%‡	23%‡	243
	cimetidine 400 mg h.s.	21%	34%	37%	241

*p=0.02
†p=0.01
‡p≤0.004
%=life-table estimates
All patients were permitted prn antacids for relief of pain.

These two trials used the currently recommended dosing regimen of cimetidine (400 mg h.s.) and ranitidine (150 mg h.s.). A comparison of other dosing regimens has not been studied.

The studied dosing regimens are not equivalent with respect to the degree and duration of acid suppression or suppression of nocturnal acid.

The superiority of ranitidine over cimetidine in these trials indicates that the dosing regimen currently recommended for cimetidine is less likely to be as successful in maintenance therapy.

Convenient once-a-night dose with a low incidence of side effects[3]

Headache, sometimes severe, seems to be related to ranitidine administration. Other side effects have been reported; for a complete listing, see the **ADVERSE REACTIONS** section in the Brief Summary.

No significant interference with the hepatic cytochrome P-450 enzyme system at recommended doses

ZANTAC 150 mg has no significant drug interactions with theophylline, phenytoin, or warfarin. The bioavailability of certain medications whose absorption is dependent on a low gastric pH may be altered when ZANTAC or other medications that decrease gastric acidity are administered.

Zantac® 150
ranitidine HCl/Glaxo 150 mg tablets

One tablet at bedtime
for maintenance

See next page for references and
Brief Summary of Product Information.

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Zantac® 150

ranitidine HCl/Glaxo 150 mg tablets

One tablet at bedtime for maintenance therapy in healed duodenal ulcer patients

References:

1. Silvis SE, Griffin J, Hardin R, et al: Final report on the United States multicenter trial comparing ranitidine to cimetidine as maintenance therapy following healing of duodenal ulcer. *J Clin Gastroenterol* 1985;7(6):482-487.
2. Gough KR, Korman MG, Bardhan KD, et al: Ranitidine and cimetidine in prevention of duodenal ulcer relapse: A double-blind, randomised, multicentre, comparative trial. *Lancet* 1984;ii:659-662.
3. Data available on request, Glaxo Inc.

ZANTAC® 150 Tablets
(ranitidine hydrochloride)
ZANTAC® 300 Tablets
(ranitidine hydrochloride)

BRIEF SUMMARY DF PRODUCT INFORMATIDN

The following is a brief summary only. Before prescribing, see complete prescribing information in ZANTAC® product labeling.

INDICATIONS AND USAGE: ZANTAC® is indicated in:

1. Short-term treatment of **active duodenal ulcer.** Most patients heal within four weeks.
2. **Maintenance therapy** for duodenal ulcer patients at reduced dosage after healing of acute ulcers.
3. The treatment of **pathological hypersecretory conditions** (eg, Zollinger-Ellison syndrome and systemic mastocytosis).
4. Short-term treatment of **active, benign gastric ulcer.** Most patients heal within six weeks and the usefulness of further treatment has not been demonstrated.
5. Treatment of **gastroesophageal reflux disease (GERD).** Symptomatic relief commonly occurs within one or two weeks after starting therapy and is maintained throughout a six-week course of therapy.

In active duodenal ulcer; active, benign gastric ulcer; hypersecretory states; and GERD, concomitant antacids should be given as needed for relief ot pain.

CDNTRAINDICATIONS: ZANTAC® is contraindicated for patients known to have hypersensitivity to the drug.

PRECAUTIDNS: Symptomatic response to ZANTAC® therapy does not preclude the presence of gastric malignancy.

Since ZANTAC is excreted primarily by the kidney, dosage should be adjusted in patients with impaired renal function (see **DDSAGE ANO ADMINISTRATION**). Caution should be observed in patients with hepatic dysfunction since ZANTAC is metabolized in the liver.

False-positive tests for urine protein with Multistix® may occur during ZANTAC therapy, and therefore testing with sulfosalicylic acid is recommended.

Although recommended doses of ZANTAC do not inhibit the action of cytochrome P-450 enzymes in the liver, there have been isolated reports of drug interactions which suggest that ZANTAC may affect the bioavailability of certain drugs by some mechanism as yet unidentified (eg, a pH-dependent effect on absorption or a change in volume of distribution).

Lack of experience to date precludes recommending ZANTAC for use in children or pregnant patients. Since ZANTAC is secreted in human milk, caution should be exercised when administered to a nursing mother.

ADVERSE REACTIONS: Headache, sometimes severe, seems to be related to ZANTAC® administration. Constipation, diarrhea, nausea/vomiting, and abdominal discomfort/pain have been reported. There have been rare reports of malaise, dizziness, somnolence, insomnia, vertigo, tachycardia, bradycardia, premature ventricular beats, and arthralgias. Rare cases of reversible mental confusion, agitation, depression, and hallucinations have been reported, predominantly in severely ill elderly patients.

In normal volunteers, SGPT values were increased to at least twice the pretreatment levels in 6 of 12 subjects receiving 100 mg qid IV tor seven days, and in 4 of 24 subjects receiving 50 mg qid for five days. With oral administration there have been occasional reports of reversible hepatitis, hepatocellular or hepatocanalicular or mixed, with or without jaundice.

There have been rare reports of reversible leukopenia, granulocytopenia, thrombocytopenia, and pancytopenia.

Although controlled studies have shown no antiandrogenic activity, occasional cases of gynecomastia, impotence, and loss of libido have been reported in male patients receiving ZANTAC, but the incidence did not differ from that in the general population.

Incidents of rash, including rare cases suggestive of mild erythema multiforme, and, rarely, alopecia, have been reported, as well as rare cases of hypersensitivity reactions (eg, bronchospasm, fever, rash, eosinophilia) and small increases in serum creatinine.

DVERDOSAGE: Information concerning possible overdosage and its treatment appears in the full prescribing information.

DDSAGE ANO ADMINISTRATIDN: Active Duodenal Ulcer: The current recommended adult oral dosage is 150 mg twice daily. An alternate dosage of 300 mg once daily at bedtime can be used for patients in whom dosing convenience is important. The advantages of one treatment regimen compared to the other in a particular patient population have yet to be demonstrated.

Maintenance Therapy: The current recommended adult oral dosage is 150 mg at bedtime.

Pathological Hypersecretory Conditions (such as Zollinger-Ellison Syndrome): The current recommended adult oral dosage is 150 mg twice a day. In some patients it may be necessary to administer ZANTAC 150-mg doses more frequently. Doses should be adjusted to individual patient needs, and should continue as long as clinically indicated. Doses up to 6 g/day have been employed in patients with severe disease.

Benign Gastric Ulcer: The current recommended adult oral dosage is 150 mg twice a day.

GERD: The current recommended adult oral dosage is 150 mg twice a day.

Dosage Adjustment for Patients with Impaired Renal Function: On the basis of experience with a group of subjects with severely impaired renal function treated with ZANTAC, the recommended dosage in patients with a creatinine clearance less than 50 ml/min is 150 mg every 24 hours. Should the patient's condition require, the frequency of dosing may be increased to every 12 hours or even further with caution. Hemodialysis reduces the level of circulating ranitidine. Ideally, the dosage schedule should be adjusted so that the timing of a scheduled dose coincides with the end of hemodialysis.

HDW SUPPLIED: ZANTAC® 300 Tablets (ranitidine hydrochloride equivalent to 300 mg of ranitidine) are yellow, capsule-shaped tablets embossed with "ZANTAC 300" on one side and "Glaxo" on the other. They are available in bottles of 30 (NDC 0173-0393-40) and unit dose packs of 100 tablets (NDC 0173-0393-47).

ZANTAC® 150 Tablets (ranitidine hydrochloride equivalent to 150 mg of ranitidine) are white tablets embossed with "ZANTAC 150" on one side and "Glaxo" on the other. They are available in bottles of 60 tablets (NDC 0173-0344-42) and unit dose packs of 100 tablets (NDC 0173-0344-47).

Store between 15° and 30°C (59° and 86°F) in a dry place. Protect from light. Replace cap securely after each opening.

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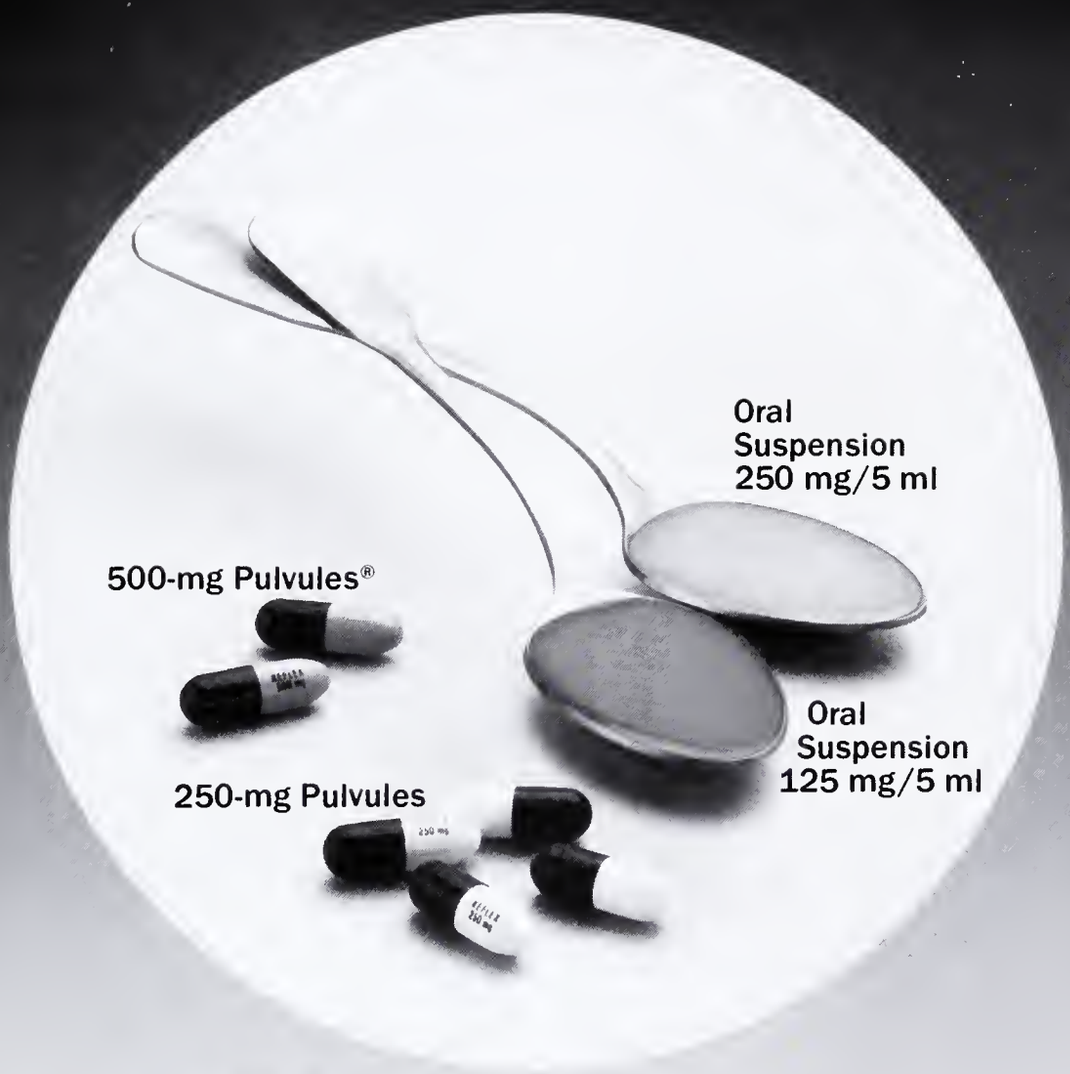
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Reference:
1. Sachs R, Frank M, Fishman SK. Overview of clinical experience with glipizide. In *Glipizide: A Worldwide Review*. Princeton, NJ, Excerpta Medica, 1984, pp 163-172

GLUCOTROL® (glipizide) Tablets

Brief Summary of Prescribing Information

INDICATIONS AND USAGE: GLUCOTROL is indicated as an adjunct to diet for the control of hyperglycemia in patients with non-insulin-dependent diabetes mellitus (NIDDM, type II) after an adequate trial of dietary therapy has proved unsatisfactory.

CONTRAINDICATIONS: GLUCOTROL is contraindicated in patients with known hypersensitivity to the drug or with diabetic ketoacidosis, with or without coma, which should be treated with insulin.

SPECIAL WARNING ON INCREASED RISK OF CARDIOVASCULAR MORTALITY: The administration of oral hypoglycemic drugs has been reported to be associated with increased cardiovascular mortality as compared to treatment with diet alone or diet plus insulin. This warning is based on the study conducted by the University Group Diabetes Program (UGDP), a long-term prospective clinical trial designed to evaluate the effectiveness of glucose-lowering drugs in preventing or delaying vascular complications in patients with non-insulin-dependent diabetes. The study involved 823 patients who were randomly assigned to one of four treatment groups (*Diabetes*, 19, supp. 2:747-830, 1970).

UGDP reported that patients treated for 5 to 8 years with diet plus a fixed dose of tolbutamide (1.5 grams per day) had a rate of cardiovascular mortality approximately 2-1/2 times that of patients treated with diet alone. A significant increase in total mortality was not observed, but the use of tolbutamide was discontinued based on the increase in cardiovascular mortality, thus limiting the opportunity for the study to show an increase in overall mortality. Despite controversy regarding the interpretation of these results, the findings of the UGDP study provide an adequate basis for this warning. The patient should be informed of the potential risks and advantages of GLUCOTROL and of alternative modes of therapy.

Although only one drug in the sulfonylurea class (tolbutamide) was included in this study, it is prudent from a safety standpoint to consider that this warning may also apply to other oral hypoglycemic drugs in this class, in view of their close similarities in mode of action and chemical structure.

PRECAUTIONS: Renal and Hepatic Disease: The metabolism and excretion of GLUCOTROL may be slowed in patients with impaired renal and/or hepatic function. Hypoglycemia may be prolonged in such patients should it occur.

Hypoglycemia: All sulfonylureas are capable of producing severe hypoglycemia. Proper patient selection, dosage, and instructions are important to avoid hypoglycemia. Renal or hepatic insufficiency may increase the risk of hypoglycemic reactions. Elderly, debilitated or malnourished patients and those with adrenal or pituitary insufficiency are particularly susceptible to the hypoglycemic action of glucose-lowering drugs. Hypoglycemia may be difficult to recognize in the elderly or people taking beta-adrenergic blocking drugs. Hypoglycemia is more likely to occur when caloric intake is deficient, after severe or prolonged exercise, when alcohol is ingested, or when more than one glucose-lowering drug is used.

Loss of Control of Blood Glucose: A loss of control may occur in diabetic patients exposed to stress such as fever, trauma, infection or surgery. It may then be necessary to discontinue GLUCOTROL and administer insulin.

Laboratory Tests: Blood and urine glucose should be monitored periodically. Measurement of glycosylated hemoglobin may be useful.

Information for Patients: Patients should be informed of the potential risks and advantages of GLUCOTROL, of alternative modes of therapy, as well as the importance of adhering to dietary instructions, of a regular exercise program, and of regular testing of urine and/or blood glucose. The risks of hypoglycemia, its symptoms and treatment, and conditions that predispose to its development should be explained to patients and responsible family members. Primary and secondary failure should also be explained.

Drug Interactions: The hypoglycemic action of sulfonylureas may be potentiated by certain drugs including nonsteroidal anti-inflammatory agents and other drugs that are highly protein bound, salicylates, sulfonamides, chloramphenicol, probenecid, coumarins, monoamine oxidase inhibitors, and beta adrenergic blocking agents. *In vitro* studies indicate that GLUCOTROL binds differently than tolbutamide and does not interact with salicylate or dicumarol. However, caution must be exercised in extrapolating these findings to a clinical situation. Certain drugs tend to produce hyperglycemia and may lead to loss of control, including the thiazides and other diuretics, corticosteroids, phenothiazines, thyroid products, estrogens, oral contraceptives, phenytoin, nicotinic acid, sympathomimetics, calcium channel blocking drugs, and isoniazid. A potential interaction between oral miconazole and oral hypoglycemic agents leading to severe hypoglycemia has been reported. Whether this interaction also occurs with the intravenous, topical, or vaginal preparations of miconazole is not known.

Carcinogenesis, Mutagenesis, Impairment of Fertility: A 20-month study in rats and an 18-month study in mice at doses up to 75 times the maximum human dose revealed no evidence of drug-related carcinogenicity. Bacterial and *in vivo* mutagenicity tests were uniformly negative. Studies in rats of both sexes at doses up to 75 times the human dose showed no effects on fertility.

Pregnancy: Pregnancy Category C. GLUCOTROL (glipizide) was found to be mildly fetotoxic in rat reproductive studies at all dose levels (5-50 mg/kg). This fetotoxicity has been similarly noted with other sulfonylureas, such as tolbutamide and tolazamide. The effect is perinatal and believed to be directly related to the pharmacologic (hypoglycemic) action of GLUCOTROL. In studies in rats and rabbits no teratogenic effects were found. There are no adequate and well controlled studies in pregnant women. GLUCOTROL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Because recent information suggests that abnormal blood glucose levels during pregnancy are associated with a higher incidence of congenital abnormalities, many experts recommend that insulin be used during pregnancy to maintain blood glucose levels as close to normal as possible.

Nonteratogenic Effects: Prolonged severe hypoglycemia has been reported in neonates born to mothers who were receiving a sulfonylurea drug at the time of delivery. This has been reported more frequently with the use of agents with prolonged half-lives. GLUCOTROL should be discontinued at least one month before the expected delivery date.

Nursing Mothers: Since some sulfonylurea drugs are known to be excreted in human milk, insulin therapy should be considered if nursing is to be continued.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS: In controlled studies, the frequency of serious adverse reactions reported was very low. Of 702 patients, 11.8% reported adverse reactions and in only 1.5% was GLUCOTROL discontinued.

Hypoglycemia: See PRECAUTIONS and OVERDOSAGE sections.

Gastrointestinal: Gastrointestinal disturbances, the most common, were reported with the following approximate incidence: nausea and diarrhea, one in 70; constipation and gastralgia, one in 100. They appear to be dose-related and may disappear on division or reduction of dosage. Chloestatic jaundice may occur rarely with sulfonylureas. GLUCOTROL should be discontinued if this occurs.

Dermatologic: Allergic skin reactions including erythema, morbilliform or maculopapular eruptions, urticaria, pruritus, and eczema have been reported in about one in 70 patients. These may be transient and may disappear despite continued use of GLUCOTROL; if skin reactions persist, the drug should be discontinued. Porphyria cutanea tarda and photosensitivity reactions have been reported with sulfonylureas.

Hematologic: Leukopenia, agranulocytosis, thrombocytopenia, hemolytic anemia, aplastic anemia, and pancytopenia have been reported with sulfonylureas.

Metabolic: Hepatic porphyria and disulfiram-like alcohol reactions have been reported with sulfonylureas. Clinical experience to date has shown that GLUCOTROL has an extremely low incidence of disulfiram-like reactions.

Endocrine Reactions: Cases of hyponatremia and the syndrome of inappropriate antidiuretic hormone (SIADH) secretion have been reported with this and other sulfonylureas.

Miscellaneous: Dizziness, drowsiness, and headache have been reported in about one in fifty patients treated with GLUCOTROL. They are usually transient and seldom require discontinuance of therapy.

OVERDOSAGE: Overdosage of sulfonylureas including GLUCOTROL can produce hypoglycemia. If hypoglycemic coma is diagnosed or suspected, the patient should be given a rapid intravenous injection of concentrated (50%) glucose solution. This should be followed by a continuous infusion of a more dilute (10%) glucose solution at a rate that will maintain the blood glucose at a level above 100 mg/dL. Patients should be closely monitored for a minimum of 24 to 48 hours since hypoglycemia may recur after apparent clinical recovery. Clearance of GLUCOTROL from plasma would be prolonged in persons with liver disease. Because of the extensive protein binding of GLUCOTROL (glipizide), dialysis is unlikely to be of benefit.

DOSAGE AND ADMINISTRATION: There is no fixed dosage regimen for the management of diabetes mellitus with GLUCOTROL. In general, it should be given approximately 30 minutes before a meal to achieve the greatest reduction in postprandial hyperglycemia.

Initial Dose: The recommended starting dose is 5 mg before breakfast. Geriatric patients or those with liver disease may be started on 2.5 mg. Dosage adjustments should ordinarily be in increments of 2.5-5 mg, as determined by blood glucose response. At least several days should elapse between titration steps.

Maximum Dose: The maximum recommended total daily dose is 40 mg.

Maintenance: Some patients may be effectively controlled on a once-a-day regimen, while others show better response with divided dosing. Total daily doses above 15 mg should ordinarily be divided.

HOW SUPPLIED: GLUCOTROL is available as white, dye-free, scored diamond-shaped tablets imprinted as follows: 5 mg tablet—Pfizer 411 (NDC 5 mg 0049-4110-66) Bottles of 100, 10 mg tablet—Pfizer 412 (NDC 10 mg 0049-4120-65) Bottles of 100.

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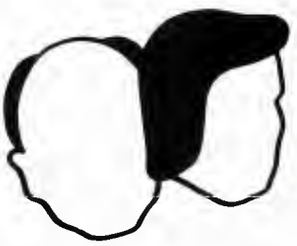
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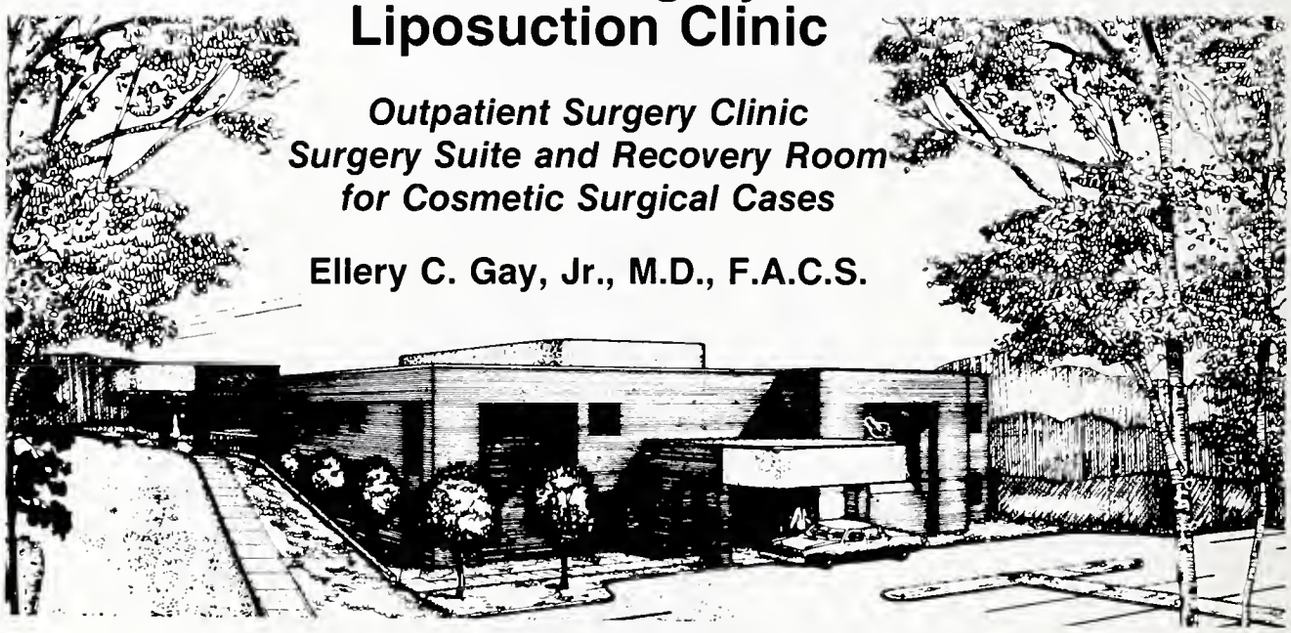
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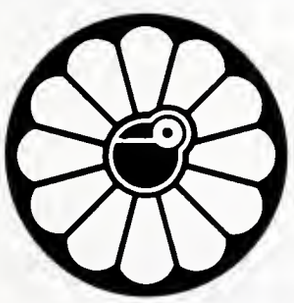
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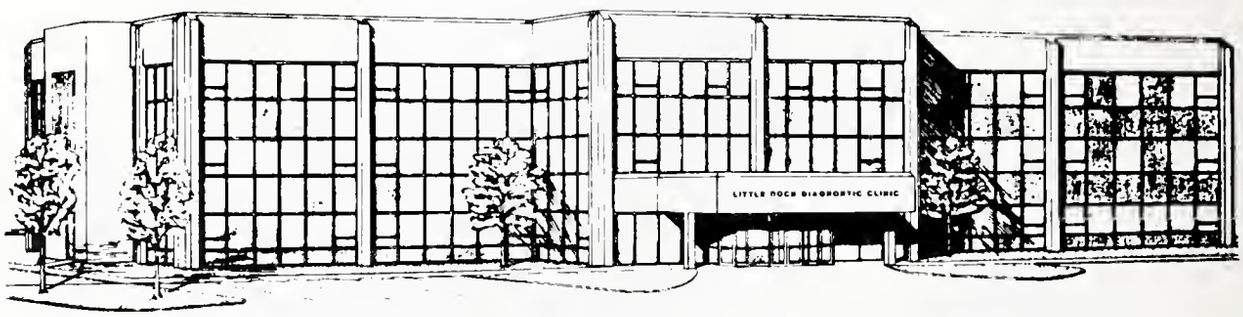
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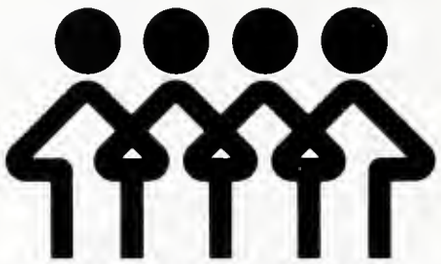
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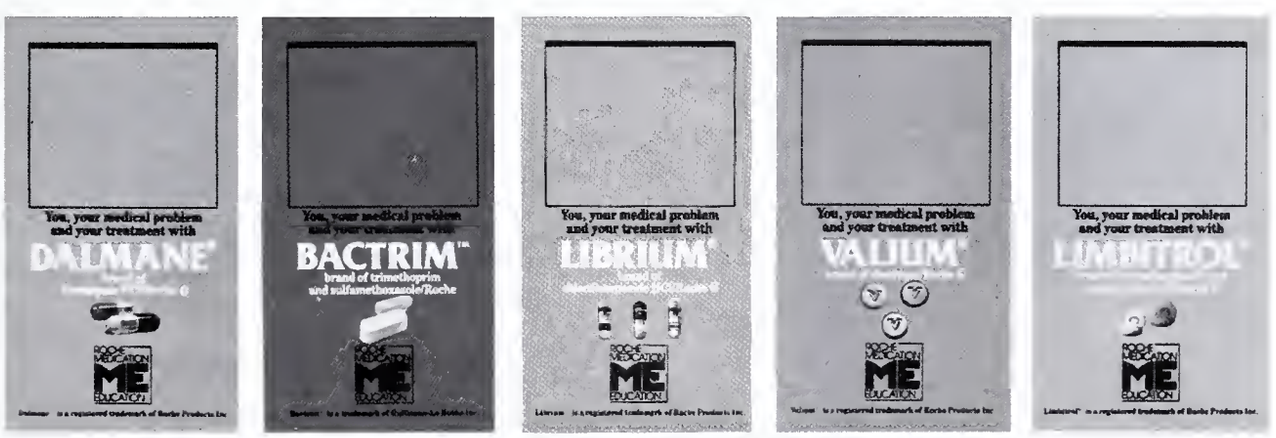
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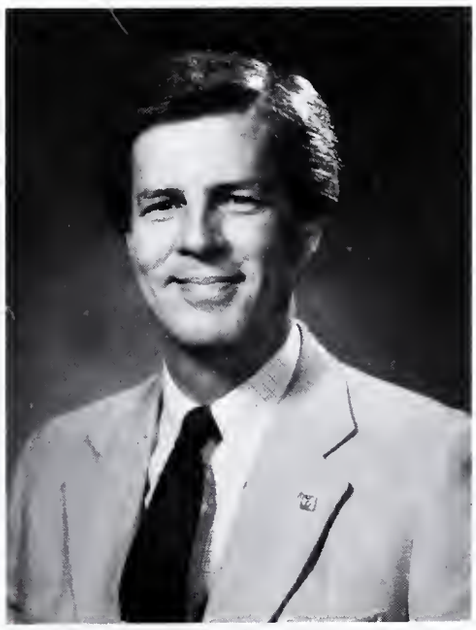
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SPECIAL IN THIS ISSUE

Reflections on the Health Policy Agenda Project 441

SCIENTIFIC

Migration of Angelchik Prosthesis and Bowel Obstruction 437

FEATURES

From Other Years "William Riley Brooksher, Jr., M.D." 449

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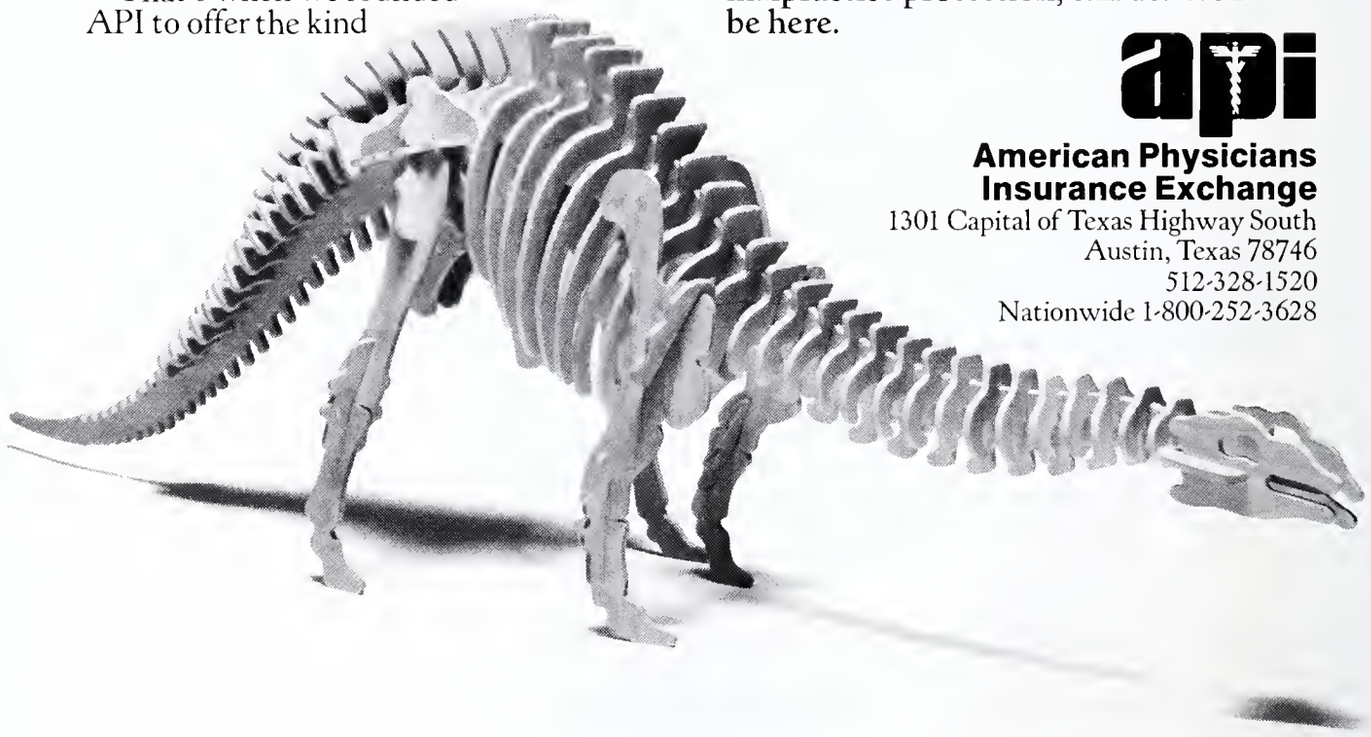
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CONTENTS

SCIENTIFIC ARTICLES

The Potential for Cost-Effective Senior Citizens' Programs: A Case Study 433
Mary Jo Schneider, Ph.D., Diana D. Chapman, M.A., and Donald E. Voth, Ph.D.

Migration of Angelchik Prosthesis and Bowel Obstruction 437
Alejandro Arpayoglou, M.D., and Andrew J. Jansen, M.D.

SPECIAL ARTICLE

Reflections on the Health Policy Agenda Project 441
William Golden, M.D.

FEATURES

EKG of the Month 444
Cancer Management Problem 447
A. Reed Thompson, M.D., W. E. Atkinson, M.D., Anthony P. Bucolo, M.D., Alvah J. Nelson, III., M.D., and David H. Newbern, M.D.
From Other Years "William Riley Brooksher, Jr., M.D." 449
Richard B. Clark, M.D.
Medicine in the News 449
Keeping Up 455
Things to Come. 459
Personal and News Items 462
New Members 462
In Memorium. 462
Resolutions. 464

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The Potential for Cost-Effective Senior Citizens' Programs: A Case Study

Mary Jo Schneider, Ph.D., Diana D. Chapman, M.A., and Donald E. Voth, Ph.D.*

Abstract

A model project for senior citizens in a rural county in western Arkansas was examined to determine its potential for cost-effectiveness by reducing institutionalization. A comparison between participants and nonparticipants showed no difference in rates of institutionalization, and thus the program had no effect on institutionalization. Nevertheless, a methodology was worked out to determine what would have been required for the model project to achieve cost-effectiveness.

Case Study

Although it has been estimated that at least one-third of all nursing home placements would have been unnecessary if adequate community-based services were available, the traditional social service system, like the traditional medical care system, has neglected preventive services in favor of crisis intervention. In the past several years, however, there have been a number of preventive efforts. These include community service programs for the elderly which provide transportation, health counseling, information and referral services, congregate and home-delivered meals, and home care to those segments of the elderly population who show the most need. If these programs are effective, many of the debilitating aspects of old age can be prevented or forestalled so that a larger percentage of older Americans can remain independent in their own homes rather than living their last years in institutions. In addition to the humanitarian merits of prevention, advocates have emphasized their potential cost savings to society. Logically, it would seem more cost-effective to spend monies for preventive programs than to attempt to cure extant maladies.

Objectives of Senior Programs and Previous Research Results

The hub of most senior citizens' programs is the senior center which provides nutritious meals and serves as an access point to introduce elders to other available community services. These centers are designed to improve the quality of life for senior citizens, including their health and morale.[1,2] Since the early 1970's a number of studies have been performed to evaluate the effectiveness of these nutrition centers. Although the results of the studies have not been consistent, the major have documented few positive health or morale benefits from participation.[1,3,4,5]

Research also indicates that participants tend to be individuals who have a lifelong pattern of social activity and who are in reasonably good health,[6,7,8,9] although some studies[3,4] did conclude that the programs are effective in reaching the more economically needy. If programs are to be effective in reducing institutionalization and in improving health and morale as well as in achieving cost-effectiveness, they must attract those who have a high risk of institutionalization.

The Model Project in Western Arkansas: A Case Study

In 1977, the Western Arkansas Area Agency on Aging received monies to develop a model project in Crawford County, Arkansas, a low income, predominantly rural county in the western Arkansas Ozarks. The model project was to provide services for elderly citizens which would reduce the incidence of institutionalization. Services provided to the elders included transportation, home health aides, medical screening, and nutritional meals and informational and referral services at five senior centers. The model project was to be evaluated primarily in terms of its effect on reducing institutionalization and its potential for cost effectiveness. Other effects of project participation such as improvements in health, life satisfaction, and use of other available government services, were also examined.

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Methodology

In 1977, before any community-based services were available to senior citizens, the researchers interviewed a quota sample of 100 persons from Crawford County, and 100 persons from Franklin County, a neighboring county with a similar socioeconomic profile where a less comprehensive range of services were to be provided. To obtain the quota sample, Census Enumeration Districts in the counties were selected randomly, with probabilities proportional to the number of elders residing in them. The quota sample was augmented by a self-selected sample of county elderly who used a medical screening service provided by the project. Quota and medical screening samples were analyzed separately. In 1979 these same people were re-interviewed to detect any changes between those who had become participants and those who had not. Cost figures for the Crawford County model project were also collected and analyzed over the same time period.

Effects of Program Participation

Rates of institutionalization were not affected by program participation, nor did participation improve health, life satisfaction scores, or lead to increased use of other available social services.[10] These findings, of course, rule out the potential for model project cost-effectiveness. However, the researchers were still interested in determining just what impact the project would have had to had before it could become cost-effective. Such a calculation should be of interest to those involved in related social service programs where cost-effectiveness considerations are important.

Issues in Determining Cost-Effectiveness

Providing community services to senior citizens is not an inexpensive undertaking. Vans and gasoline are integral part of any transportation service, professional nurses are needed to oversee health screening and home health aide programs, and congregate nutrition programs require housing and directors. The costs of programs involve a proportion of the time of administrators on regional, state and federal levels as well. Costs for social service programs are traditionally calculated in one of two ways: either taxpayer costs alone are calculated, or the total costs of a program to society are determined. Using the first method, no dollar amount is ascribed to such items as volunteer labor, opportunity costs, and donations. Using the second method, all costs, whether borne by the taxpayer or not, are accounted for.

The annual cost of the Crawford County model project, 1977-78, was $362,000 when taxpayer costs alone were considered, and $437,000 when the total cost to society was calculated.[11] These costs may be higher or lower than those of other similar projects elsewhere. For example, in rural Arkansas, transportation costs may be expected to be expensive since rather large distances over secondary roads are involved in transporting persons from home to senior lodges and service areas. By contrast, rents for senior centers are quite low - we imputed rent at $100 per month for the five centers in Crawford County.

Potential for Cost-Effectiveness

Using the above figures, the model project would have to reduce institutionalization in Crawford County by 140 person-years annually to break even when all costs are considered, and by 51 person-years annual when only explicit taxpayer costs are calculated.

To make the first calculation, we compared model project costs with the costs of institutionalization in Crawford, adjusting for cost-of-living expenses based on living expense figures provided by the elderly in our Crawford County survey. In 1977-78, nursing home costs in Crawford County averaged $590 per month. In the same year, living expenses for the elderly in the county averaged $330 monthly. The net savings that result from keeping on Crawford County elderly person out of a nursing home are $260 per month ($590-$330), or $3,120 annually. Thus, to break even with all costs, the model project would have to reduce the number of persons entering nursing homes from the county by 140 person-years each year ($437,000/ $3,120).

To make the second calculation, the cost-of-living adjustment was not subtracted from the cost of institutional care since living expenses are borne privately. Thus, in this calculation the annual costs of the model project to the taxpayer ($362,000) are divided by the annual costs of institutionalization ($590 per mo. x 12 or $7,080).

Converting Person-Years to Admissions

To reduce institutionalization by a certain number of person-years, it is necessary to prevent substantially more than that number from institutionalization.

In the absence of specific information on the distribution of nursing home admissions throughout the year, we assumed that they were evenly distributed. We have not adjusted for those persons who leave the nursing home during the year they enter, making our estimate of the number of person-years spent in an institution slightly exaggerated.

Making these assumptions, one admission would result in one-half person-year in the nursing home, on the average. Therefore 280 (2 x 140) admissions would have to be prevented to break even with all costs of the program and 102 (2 x 51) admissions would have to be prevented to break even with taxpayer costs alone.

Estimate of Nursing Home Admissions in Crawford County

Since we concluded that participation in elderly-targeted programs had no impact on admissions to nursing homes in either Crawford or Franklin Counties, we were able to use the entire quota sample to estimate the proportion of the elderly population who enter the nursing home during

a particular period of time. A total of ten persons from the quota sample (5.4 percent) entered the nursing home during the two year study period. Ninety-five percent confidence intervals around this estimate are plus or minus 3.2 percent, or from 2.1 to 8.6 percent. These proportions, when applied to the 5,000 elderly in Crawford County, result in an estimate of 270 persons entering the nursing home in two years' time, with a range of from 105 to 430 persons. The estimate for one year is 135 persons, with a 95 percent confidence interval range from 53 to 215. This suggests that there are simply not enough nursing home admissions in Crawford County in the average year to justify the costs of the programs, even if all could be prevented.

Can the Model Project and Other Similar Programs be Justified

Participants generally have very favorable attitudes toward senior programs and often related to us personal experiences which commended the work of those involved in providing services. Yet, we have no data to indicate that the model project we evaluated had an impact on institutionalization, health, well-being or the use of related government services. Furthermore, the programs serve a comparatively few elderly persons, and those persons who are served are not those who show the greatest health or income needs.[10] While 28 percent had visited a senior center at least once, only 12 percent attended once a week or more. Such low rates of attendance obviously make a program costly. We estimate that the per capita cost for the model project in 1977-78 was $728. This estimate was made by dividing the annual costs of the project ($437,000) by the average number of weekly participants (600). If the taxpayer cost alone is used, the per capita annual cost becomes $603.

Per capita costs for the model project may take on more meaning when they are compared with the $1032 that was spent on the average child enrolled in the public school system in 1978-79. The per capita costs of the model project and other similar programs could be substantially reduced if participation levels were increased; and cost-effectiveness could be improved if only those services which directly affect institutionalization were emphasized. If senior programs are to effect reductions in institutionalization and achieve cost-effectiveness, more precise targeting is needed as well as a reconsideration of the feasibility of providing broad range and expensive services exclusively for elderly citizens.

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BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR.)*

INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**

DESCRIPTION. Inderal LA is formulated to provide a sustained release of propranolol hydrochloride. Inderal LA is available as 80 mg, 120 mg, and 160 mg capsules.

CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

The mechanism of the antihypertensive effect of INDERAL has not been established. Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output, (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain. Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use. Effects on plasma volume appear to be minor and somewhat variable. INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients.

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction. Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period. The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity.

In dosages greater than required for beta blockade, INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential. The significance of the membrane action in the treatment of arrhythmias is uncertain.

The mechanism of the antimigraine effect of propranolol has not been established. Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain.

Beta receptor blockade can be useful in conditions in which, because of pathologic or functional changes, sympathetic activity is detrimental to the patient. But there are also situations in which sympathetic stimulation is vital. For example, in patients with severely damaged hearts, adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved. In the presence of AV block, greater than first degree, beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction. Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm.

Propranolol is not significantly dialyzable.

ONCE-DAILY

INDERAL® LA

(PROPRANOLOL HCl)

LONG ACTING CAPSULES



INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension, it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

WARNINGS. CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e.g., dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case, this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS. *General:* Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

Clinical Laboratory Tests: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

Pregnancy: Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers: INDERAL is excreted in human milk. Caution should be exercised when INDERAL is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: bradycardia, congestive heart failure, intensification of AV block, hypotension, paresthesia of hands, thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type.

Central Nervous System: lightheadedness, mental depression manifested by insomnia, lassitude, weakness, fatigue, reversible mental depression progressing to catatonia, visual disturbances, hallucinations; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics.

Gastrointestinal: nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: bronchospasm.

Hematologic: agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL tablets to INDERAL LA capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg for mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood-pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three to seven day intervals until optimum response is obtained. Although individual patients may respond at any dosage level, the average optimum dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimum migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximum dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

*The appearance of these capsules is a registered trademark of Ayerst Laboratories

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Migration of Angelchik Prosthesis and Small Bowel Obstruction

Alejandro Arpayoglou, M.D. and Andrew J. Jansen, M.D.*

Introduction

For years there have been many documented complications from the use of the Angelchik Antireflux prosthesis. Some complications include post operative dysphagia which requires esophageal dilatations, persistent or recurrent reflux symptoms, intragastric erosion of the prosthesis, acute angulation of the prosthesis[3] and migration.[1,2,3]

Prosthesis migration has been reported anecdotally in the literature.[2] We present this case of migration of an Angelchik prosthesis free in the peritoneal cavity and small bowel obstruction

Case Report

C. A., a 74 year-old caucasian male, complained of frequent belching after eating or drinking, hiccups, mid-epigastric pain, nausea and vomiting for six days. The patient lost fifteen pounds in ten months.

Past History

He underwent cholecystectomy and hiatal hernia repair with Angelchik prosthesis. CVA in 1984 with residual weakness in left hand and mental confusion, inferior myocardial infarction in 1984, and hypertension, which was treated with Aldomet. The medication produced mental confusion which cleared after it was discontinued.

Physician Examination

The patient was disoriented and in distress due to epigastric pain. He was weak, dehydrated and had frequent episodes of hiccups. The abdomen had a right, subcostal scar and was soft with mild distention. There were few high pitched bowel sounds with no organomegaly or masses. Hernia was not present. Abdominal films were taken which showed very dilated bowel loops with gas-fluid levels, and a pattern of mechanical small bowel obstruction with no free air. A loose foreign body, the Angelchik prosthesis, can be seen in the pelvis (Figure 1).

Course of Treatment

After intravenous re-hydration and NG suction, an exploratory laparotomy was performed with the diagnosis of small bowel obstruction. There was an Angelchik prosthesis free in Douglas' pouch which was retrieved. The straps were not to be found around the abdominal esophagus due to multiple adhesions. The site of obstruction was a loop of jejunum herniated through a ring formed by thick adhesions and the right subcostal surgical scar. The adhesions were severed and the intestial fluid milked in both directions. No resection was necessary. Patient recovered slowly but well and was released on the eighth post-operative day. He was ambulatory and tolerating solid food. At an eight month follow-up, the patient was been well and was tolerating a regular diet. The mental confusion remains, however.

Discussion

The patient suffered from small bowel obstruction due to adhesions. Most probably the intense vomiting tore the straps of the prosthesis which then wandered free in the peritoneal cavity without any apparent consequence. Documented in a recent paper[1], 21% of 56 patients receiving Angelchik prosthesis had persistent problems includ-



Figure 1. Very dilated small bowel. The loose foreign body, an Angelchick prosthesis, is easily seen.

*Post Office Box 347, Pocahontas, Arkansas 72455.

ing dysphagia, vomiting and early gas bloat syndrome. Sixteen percent necessitated removal of the prosthesis.

In another prospective study of fifty patients[2] with Angelchik prosthesis nearly 50 percent had some degree of dysphagia and ten percent had the prosthesis removed. In another paper based on forty-one patients[3], 22.6 percent needed the removal of the prosthesis.

The authors in the references cited to not recommend the use of the Angelchik Antireflux prosthesis until control trials have been completed.

References

1. Chang F. Complications of the Angelchik Antireflux Prosthesis. Amer J of Surg, 1985; 150:50.
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3. Durrans D. The angelchik antireflux prosthesis: some reservations. Brit J of Surg, 1985; 72:525.

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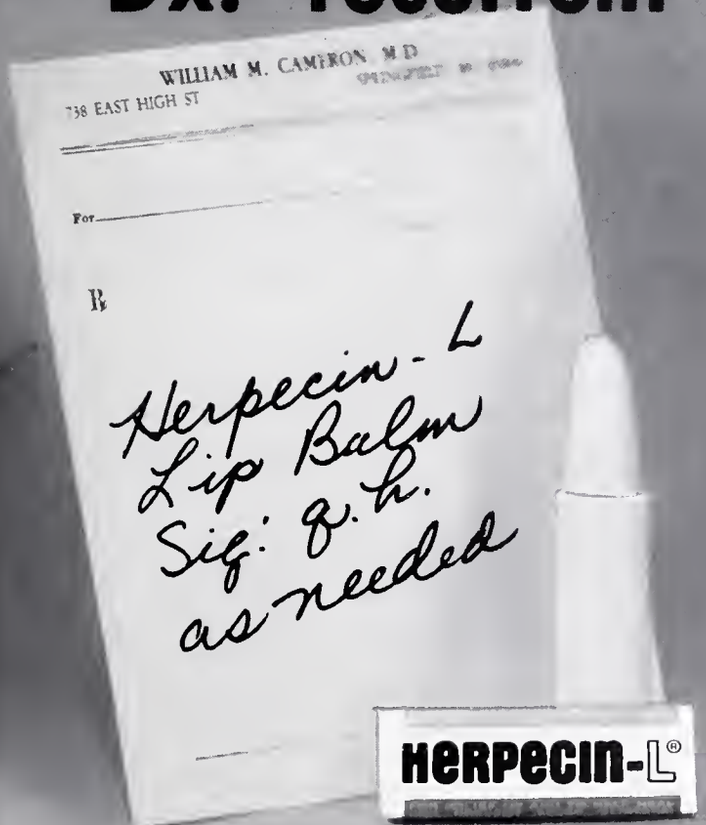
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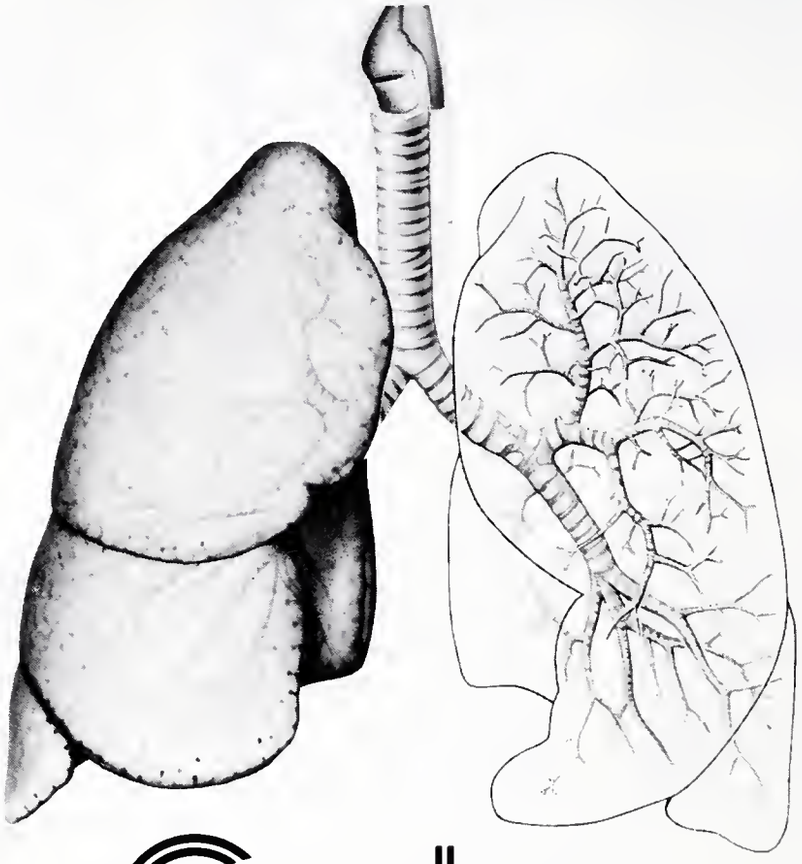
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Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

Ceclor® (cefaclor)

Summary. Consult the package literature for prescribing information.

Indications: Lower respiratory infections, including pneumonia, caused by susceptible strains of *Streptococcus pneumoniae, Haemophilus influenzae,* and *S. pyogenes* (group A beta-hemolytic streptococci).

Contraindications: Known allergy to cephalosporins.

Warnings: CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:

- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- In renal impairment, safe dosage of Ceclor may be lower than that usually recommended. Ceclor should be administered with caution in such patients.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:

- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, erythema multiforme, serum-sickness-like reactions): 1.5%; usually subside within a few days after cessation of therapy. These reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%.

Abnormalities in laboratory results of uncertain etiology

- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children)
- Abnormal urinalysis; elevations in BUN or serum creatinine
- Positive direct Coombs' test
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Reflections on the Health Policy Agenda Project

William Golden, M.D. *

Dramatic changes are occurring in the structure and organization of health care in this country. Increasingly, health care decision making in Washington is being defined more by budgetary consideration than longterm goals and discrete policy. Major programmatic shifts are often included in vast, complex omnibus legislation which limit the input of concerned parties in the final document. Furthermore, many congressmen have young staffs, inexperienced in the nuances of health care policy.

It became apparent early in the 1980's that health policy was being governed by this piecemeal budgetary process. In 1982 the American Medical Association organized the Health Policy Agenda Project (HPA) to develop a coalition based, longterm prioritization of national health issues. The project consisted of six work groups, a large advisory committee, and a national steering committee of which I was a member. The six work groups studied medical science; health professions education; health resources; delivery mechanisms and processes; evaluation, assessment and control; and payment for service. The advisory committee featured the representatives of 175 health and consumer organizations. The steering committee was comprised of members of the medical profession, nursing, allied health, public health, government, the military, the veterans' administration, business and consumer groups, including the American Association of Retired Persons. After four and a half years of discussions, the final report was released to the public in February.

Several themes underlie the Health Policy Agenda and help to serve to integrate the project. First, the ultimate goal of the health care system is to serve the public interest, individually and collectively. Second, a balance between public and private sector involvement is essential to an effective health care system. Third, the availability of information is a hallmark of a progressive, high quality health care system. Fourth, when possible, health care decisions should be made at a local level. Fifth, the success of the health care system depends on a clear delineation and understanding of the roles and responsibilities of key participants, including consumers. Finally, the cost of health care must be addressed in conjunction with the improvement of the quality of care and the availability of services.

The results of the HPA reflect a consensus document. To achieve agreement amongst such a diverse and large group of representatives required patience and a spirit of compromise. Some recommendations are restatements of traditional policy; others are quite remarkable. Nearly everyone who took part in the project expressed surprise and satisfaction over the nature of the discussions and the process that went into the development of the document. The consensus format may have limited the scope of some recommendations, but also allowed participants to understand the viewpoints of opposing interests in the policymaking arena.

Several policy papers in the report are of interest to physicians in Arkansas:

Payment for Services - The HPA report calls for negotiations between provider and recipients in the structuring of health care prices, but concedes that patients can "designate" a third party to bargain for them. The report agrees with the concept that providers should accept some financial risk in the provision of care and that insurance benefits should be structured to include catastrophic coverage. There was agreement that there should be a basic benefit package for all Americans, but the details of this "floor" proved too complex to include in the final document. Finally, this section advocates that patients have the responsibility of maintaining a healthy lifestyle and should be prepared to encounter financial consequences for increasing their risks.

Medicare and Medicaid - It was clear to project participants that Medicare, as currently structured, cannot financially sustain present benefits over the longterm. Conver-

Director, Division of General Internal Medicine, University of Arkansas for Medical Sciences, Box 641, 4301 West Markham, Little Rock 72205

n of the program to an actuarial structure met with the opposition of consumer groups who fear greater fees upon the elderly or placing the burden of paying for present and future care on the current workforce and thus doubly taxing younger Americans. The final report makes recommendations to improve the financial basis of the system, but advises that individuals be allowed to use tax advantaged instruments to establish funds that would supplement Medicare, which was felt to be inadequate to provide complete health coverage in old age. The report also called for expansion of Medicaid to cover the medically indigent and to create nationally uniform benefit packages with both federal and state oversight and contributions to the system.

Consensus could not be achieved on medical liability. Indeed, a representative from the Consumer Federation of America advocated that malpractice is this country's surrogate disability insurance.

Medical Education - The report of Work Group 2 supported the alteration of governmental rules to allow payments for ambulatory care training. In addition, it suggests that educators should review the content of graduate medical education to see if its length could be shortened and thus save direct and indirect costs to institutions and individuals. It supported the concept of stipends to trainees, especially in view of the fact that their contributions to institutions frequently outweigh the costs of their training. Thus, housestaff already pay tuition by accepting lower financial payments.

Medical Liability - Early drafts of this section focused on tort reform, but consensus could not be achieved. Members of the public sector did not want to alter individuals' rights to seek compensation. Indeed, a representative from the Consumer Federation of America advocated that malpractice is this country's surrogate disability insurance and will remain so until there are better methods of supporting individuals with extensive health handicaps. Moreover, the legal implications of such reform have rippling effects that limit the opportunity to achieve discrete improvements.

After hours of discussion and multiple drafts, the Steering Committee agreed that tort system modifications should be evaluated to provide fair and reasonable compensation in a cost effective manner for injuries that occur as a result of negligence. It calls for a demonstration project of a patient compensation fund to replace the court system as an initial entry point. It also calls for information systems to be expanded to allow prompt transfer among jurisdictions of licensure information concerning disciplinary information about health care professionals. The HPA Project feels that licensure boards should be given full and extensive disciplinary powers within constitutional limits and that members of such boards should be granted immunity for actions performed in good faith, or that they should be indemnified at state expense against any legal actions brought under state or federal laws when they are acting in good faith.

Boundaries of Practice - The HPA report carefully examines increasing conflicts of health care professionals in the search for definition of appropriate provision of care. The Steering Committee concluded that each state should establish a well-staffed and adequately financed bureau of health professional licensure for the purpose of administering and coordinating licensure and certification boards. This commission would be charged with mediating disputes regarding the boundaries of practice permitted under certification and/or licensure. It was felt that discussions between professional groups would best serve this purpose rather than political debates within legislative bodies. Moreover, it was felt that the health professional who coordinates an individual's health care has an ethical responsibility to insure that the services required by an individual patient are provided by a professional whose basic competence and current performance are suited to render those services safely and effectively.

Health Services Research - Early in the process, it became clear that the representatives from the academic community involved in the deliberations in Work Group 1, medical sciences, did not want to include health services research in their discussions on academic funding. "Applied" research retains a stigma and is feared as a competitor for basic, biomedical funds. Nevertheless, Robert Rubin, M.D., then of HHS, and I were able to persuade the steering committee to develop a separate policy paper on health policy research which supports adequate funding of the National Center for Health Service Research and Health Care Technology Assessment as well as a central clearinghouse for the indexing and dissemination of health services data and information.

Prevention - While the HPA report calls upon society to insure that individuals who need health services receive them, the report did not include preventive measures in this scheme. While disappointing, this aspect of the report unveiled a major barrier to improved access to screening modalities. Representatives from the insurance industry strongly objected to the inclusion of preventive medicine in basic benefit packages because they argued that prevention is an expected expense and that insurance is structured for unforeseen conditions. Thus, to include preventive testing in a policy would represent enforced saving and not insurance. Improved coverage for preventive techniques will require convincing the public and employers of its value

To achieve agreement amongst such a diverse and large group of representatives required patience and a spirit of compromise. Some recommendations are quite remarkable.

and not the winning over of the insurance industry.

Manpower - Although the basic philosophy of the steering committee sought to avoid the creation of new regulatory bodies, the final report called for a national consortium to collect data and analyze the future demand and supply of health professionals. This group would be advisory and the report rejected the use of licensure as a method of regulating manpower.

Conclusion

Overall, the HPA report serves to reinforce those elements of the American health care system that are valued by a large number of varied stakeholders in the system. Its greatest use will probably be in the education and orientation of Capitol Hill and state government staffers who may not have had the depth of experience necessary to understand the breadth of issues involved in considerations of future legislation and regulations. It also served to educate HPA participants, by means of free flowing debate, about the real concerns and rationale of opposing interests. It thus will focus future discussion and perhaps promote constructive conflict resolution.

The Health Policy Agenda has created an implementation committee composed of steering committee members from major health care organizations to oversee the dissemination of the report and the creation of new policy making and data gathering initiatives. Early plans call for experimental projects in practice reform and an increased attention to the quality of medical care.

The above sections merely highlight the contents of this extensive document. Arkansas physicians involved in socioeconomic issues can benefit from examining the full report to obtain useful references and an understanding of what policies emerged after prolonged discussion amongst a pluralistic gathering of interested parties in the health care field.

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ELECTROCARDIOGRAM OF THE MONTH

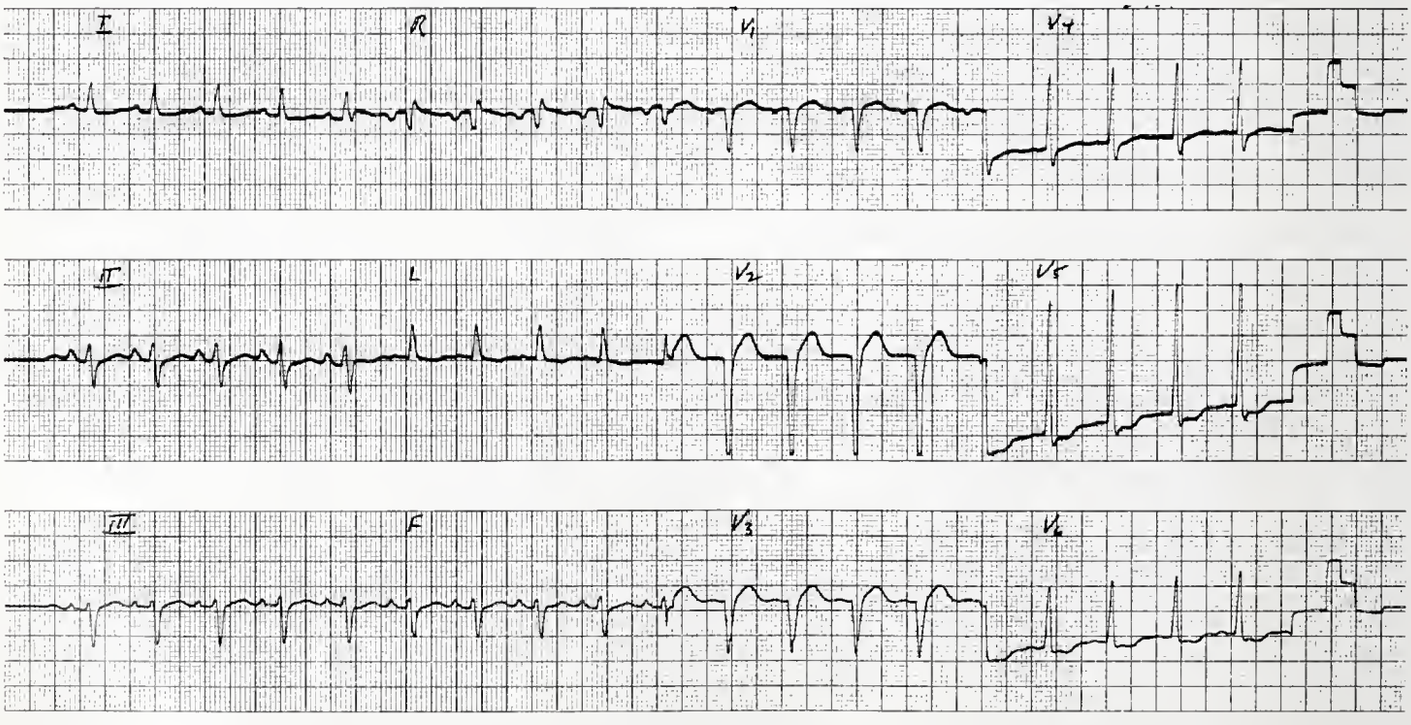
Gil Johnson, M.D.
John W. Watson, M.D.
UAMS - LRVA Division of Cardiology
Little Rock, Arkansas

CLINICAL HISTORY:

J. P. is a 60-year-old man presenting with a four hour episode of substernal chest pain associated with nausea and diaphoresis. He has a long history of hypertension and "tobaccoism". His physical examination shows a blood pressure of 170/120, crackles in his lungs, and an S3 gallop. His ECG, with chest leads at half standard, is shown. What to you think?

DISCUSSION:

The trace shows sinus tachycardia. By voltage, axis, P wave abnormality, and ST-T changes, left ventricular hypertrophy is present. The R wave progression V_1 - V_3 is poor, and judging from ST elevation in V_2 and V_3, infarction may have transpired. The feature editor wishes to thank Dr. Johnson of Conway, Arkansas, for his assistance with this month's ECG.



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WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: **Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired.** If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of triamterene and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Angiotensin-converting enzyme (ACE) inhibitors can elevate serum potassium; use with caution with 'Dyazide'. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function. Thiazides may add to or potentiate the action of other antihypertensive drugs. Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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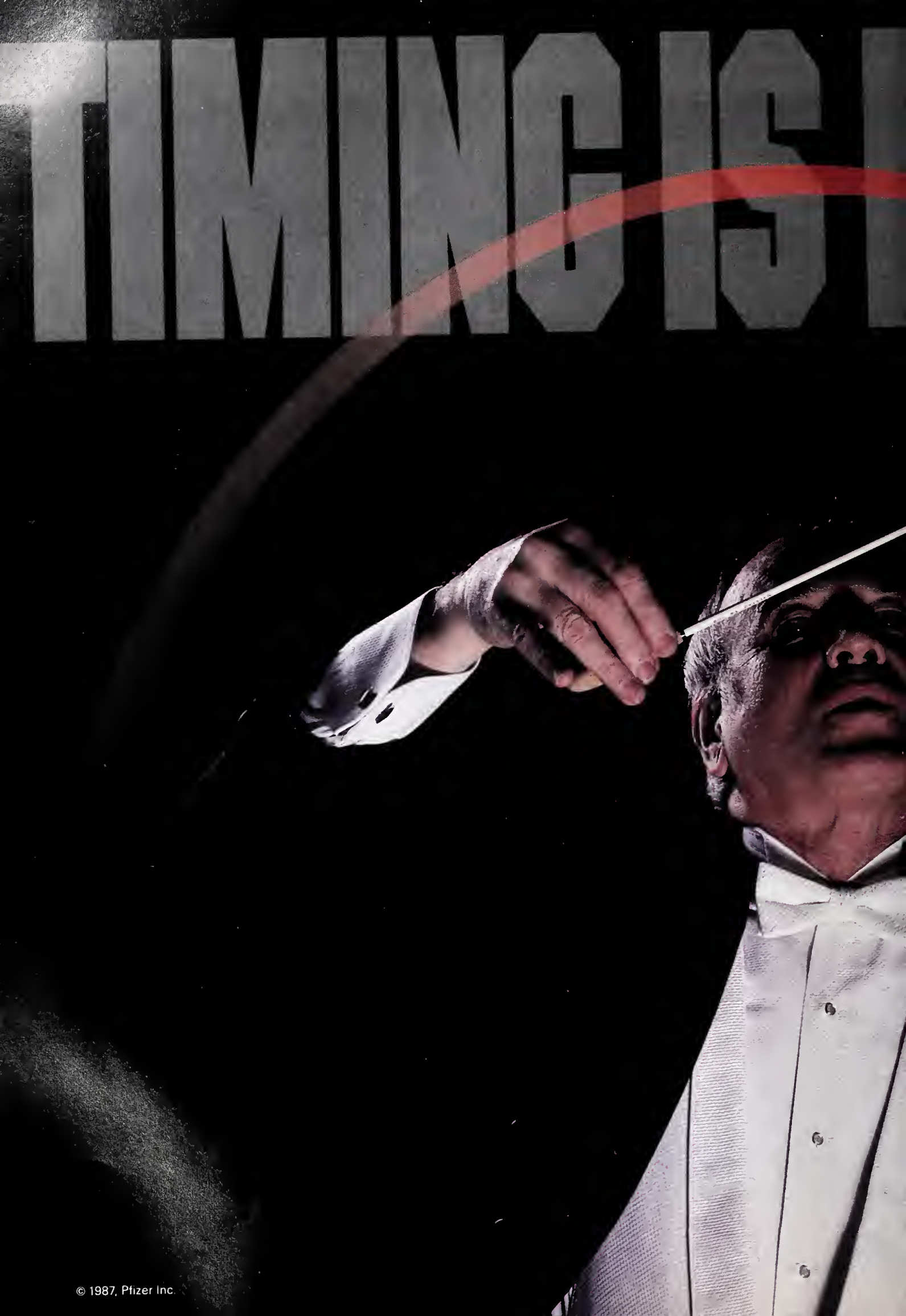


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Please see brief summary of Glucotrol® (glipizide) prescribing information on next page.

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...tolerance:
...Sachs R, Frank M, Fishman SK. Overview of clinical experience with glipizide. In *Glipizide: A Worldwide Review*. Princeton, NJ: Excerpta Medica, 1984, pp 163-172

GLUCOTROL® (glipizide) Tablets

Brief Summary of Prescribing Information

INDICATIONS AND USAGE: GLUCOTROL is indicated as an adjunct to diet for the control of hyperglycemia in patients with non-insulin-dependent diabetes mellitus (NIDDM, type II) after an adequate trial of dietary therapy has proved unsatisfactory.

CONTRAINDICATIONS: GLUCOTROL is contraindicated in patients with known hypersensitivity to the drug or with diabetic ketoacidosis, with or without coma, which should be treated with insulin.

SPECIAL WARNING ON INCREASED RISK OF CARDIOVASCULAR MORTALITY: The administration of oral hypoglycemic drugs has been reported to be associated with increased cardiovascular mortality as compared to treatment with diet alone or diet plus insulin. This warning is based on the study conducted by the University Group Diabetes Program (UGDP), a long-term prospective clinical trial designed to evaluate the effectiveness of glucose-lowering drugs in preventing or delaying vascular complications in patients with non-insulin-dependent diabetes. The study involved 823 patients who were randomly assigned to one of four treatment groups (*Diabetes*, 19, supp. 2:747-830, 1970).

UGDP reported that patients treated for 5 to 8 years with diet plus a fixed dose of tolbutamide (1.5 grams per day) had a rate of cardiovascular mortality approximately 2-1/2 times that of patients treated with diet alone. A significant increase in total mortality was not observed, but the use of tolbutamide was discontinued based on the increase in cardiovascular mortality, thus limiting the opportunity for the study to show an increase in overall mortality. Despite controversy regarding the interpretation of these results, the findings of the UGDP study provide an adequate basis for this warning. The patient should be informed of the potential risks and advantages of GLUCOTROL and of alternative modes of therapy.

Although only one drug in the sulfonylurea class (tolbutamide) was included in this study, it is prudent from a safety standpoint to consider that this warning may also apply to other oral hypoglycemic drugs in this class, in view of their close similarities in mode of action and chemical structure.

PRECAUTIONS: Renal and Hepatic Disease: The metabolism and excretion of GLUCOTROL may be slowed in patients with impaired renal and/or hepatic function. Hypoglycemia may be prolonged in such patients should it occur.

Hypoglycemia: All sulfonylureas are capable of producing severe hypoglycemia. Proper patient selection, dosage, and instructions are important to avoid hypoglycemia. Renal or hepatic insufficiency may increase the risk of hypoglycemic reactions. Elderly, debilitated or malnourished patients and those with adrenal or pituitary insufficiency are particularly susceptible to the hypoglycemic action of glucose-lowering drugs. Hypoglycemia may be difficult to recognize in the elderly or people taking beta-adrenergic blocking drugs. Hypoglycemia is more likely to occur when caloric intake is deficient, after severe or prolonged exercise, when alcohol is ingested, or when more than one glucose-lowering drug is used.

Loss of Control of Blood Glucose: A loss of control may occur in diabetic patients exposed to stress such as fever, trauma, infection or surgery. It may then be necessary to discontinue GLUCOTROL and administer insulin.

Laboratory Tests: Blood and urine glucose should be monitored periodically. Measurement of glycosylated hemoglobin may be useful.

Information for Patients: Patients should be informed of the potential risks and advantages of GLUCOTROL, of alternative modes of therapy, as well as the importance of adhering to dietary instructions, of a regular exercise program, and of regular testing of urine and/or blood glucose. The risks of hypoglycemia, its symptoms and treatment, and conditions that predispose to its development should be explained to patients and responsible family members. Primary and secondary failure should also be explained.

Drug Interactions: The hypoglycemic action of sulfonylureas may be potentiated by certain drugs including nonsteroidal anti-inflammatory agents and other drugs that are highly protein bound, salicylates, sulfonamides, chloramphenicol, probenecid, coumarins, monoamine oxidase inhibitors, and beta adrenergic blocking agents. *In vitro* studies indicate that GLUCOTROL binds differently than tolbutamide and does not interact with salicylate or dicumarol. However, caution must be exercised in extrapolating these findings to a clinical situation. Certain drugs tend to produce hyperglycemia and may lead to loss of control, including the thiazides and other diuretics, corticosteroids, phenothiazines, thyroid products, estrogens, oral contraceptives, phenytoin, nicotinic acid, sympathomimetics, calcium channel blocking drugs, and isoniazid. A potential interaction between oral miconazole and oral hypoglycemic agents leading to severe hypoglycemia has been reported. Whether this interaction also occurs with the intravenous, topical, or vaginal preparations of miconazole is not known.

Carcinogenesis, Mutagenesis, Impairment of Fertility: A 20-month study in rats and an 18-month study in mice at doses up to 75 times the maximum human dose revealed no evidence of drug-related carcinogenicity. Bacterial and *in vivo* mutagenicity tests were uniformly negative. Studies in rats of both sexes at doses up to 75 times the human dose showed no effects on fertility.

Pregnancy: Pregnancy Category C. GLUCOTROL (glipizide) was found to be mildly fetotoxic in rat reproductive studies at all dose levels (5-50 mg/kg). This fetotoxicity has been similarly noted with other sulfonylureas, such as tolbutamide and tolazamide. The effect is perinatal and believed to be directly related to the pharmacologic (hypoglycemic) action of GLUCOTROL. In studies in rats and rabbits no teratogenic effects were found. There are no adequate and well controlled studies in pregnant women. GLUCOTROL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Because recent information suggests that abnormal blood glucose levels during pregnancy are associated with a higher incidence of congenital abnormalities, many experts recommend that insulin be used during pregnancy to maintain blood glucose levels as close to normal as possible.

Nonteratogenic Effects: Prolonged severe hypoglycemia has been reported in neonates born to mothers who were receiving a sulfonylurea drug at the time of delivery. This has been reported more frequently with the use of agents with prolonged half-lives. GLUCOTROL should be discontinued at least one month before the expected delivery date.

Nursing Mothers: Since some sulfonylurea drugs are known to be excreted in human milk, insulin therapy should be considered if nursing is to be continued.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS: In controlled studies, the frequency of serious adverse reactions reported was very low. Of 702 patients, 11.8% reported adverse reactions and in only 1.5% was GLUCOTROL discontinued.

Hypoglycemia: See PRECAUTIONS and OVERDOSAGE sections.

Gastrointestinal: Gastrointestinal disturbances, the most common, were reported with the following approximate incidence: nausea and diarrhea, one in 70; constipation and gastralgia, one in 100. They appear to be dose-related and may disappear on division or reduction of dosage. Chloestatic jaundice may occur rarely with sulfonylureas. GLUCOTROL should be discontinued if this occurs.

Dermatologic: Allergic skin reactions including erythema, morbilliform or maculopapular eruptions, urticaria, pruritus and eczema have been reported in about one in 70 patients. These may be transient and may disappear despite continued use of GLUCOTROL; if skin reactions persist, the drug should be discontinued. Porphyria cutanea tarda and photosensitivity reactions have been reported with sulfonylureas.

Hematologic: Leukopenia, agranulocytosis, thrombocytopenia, hemolytic anemia, aplastic anemia, and pancytopenia have been reported with sulfonylureas.

Metabolic: Hepatic porphyria and disulfiram-like alcohol reactions have been reported with sulfonylureas. Clinical experience to date has shown that GLUCOTROL has an extremely low incidence of disulfiram-like reactions.

Endocrine Reactions: Cases of hyponatremia and the syndrome of inappropriate antidiuretic hormone (SIADH) secretion have been reported with this and other sulfonylureas.

Miscellaneous: Dizziness, drowsiness, and headache have been reported in about one in fifty patients treated with GLUCOTROL. They are usually transient and seldom require discontinuance of therapy.

OVERDOSAGE: Overdosage of sulfonylureas including GLUCOTROL can produce hypoglycemia. If hypoglycemic coma is diagnosed or suspected, the patient should be given a rapid intravenous injection of concentrated (50%) glucose solution. This should be followed by a continuous infusion of a more dilute (10%) glucose solution at a rate that will maintain the blood glucose at a level above 100 mg/dL. Patients should be closely monitored for a minimum of 24 to 48 hours since hypoglycemia may recur after apparent clinical recovery. Clearance of GLUCOTROL from plasma would be prolonged in persons with liver disease. Because of the extensive protein binding of GLUCOTROL (glipizide), dialysis is unlikely to be of benefit.

DOSAGE AND ADMINISTRATION: There is no fixed dosage regimen for the management of diabetes mellitus with GLUCOTROL; in general, it should be given approximately 30 minutes before a meal to achieve the greatest reduction in postprandial hyperglycemia.

Initial Dose: The recommended starting dose is 5 mg before breakfast. Geriatric patients or those with liver disease may be started on 2.5 mg. Dosage adjustments should ordinarily be in increments of 2.5-5 mg, as determined by blood glucose response. At least several days should elapse between titration steps.

Maximum Dose: The maximum recommended total daily dose is 40 mg.

Maintenance: Some patients may be effectively controlled on a once-a-day regimen, while others show better response with divided dosing. Total daily doses above 15 mg should ordinarily be divided.

HOW SUPPLIED: GLUCOTROL is available as white, dye-free, scored diamond-shaped tablets imprinted as follows: 5 mg tablet—Pfizer 411 (NDC 5 mg 0049-4110-66) Bottles of 100, 10 mg tablet—Pfizer 412 (NDC 10 mg 0049-4120-65) Bottles of 100.

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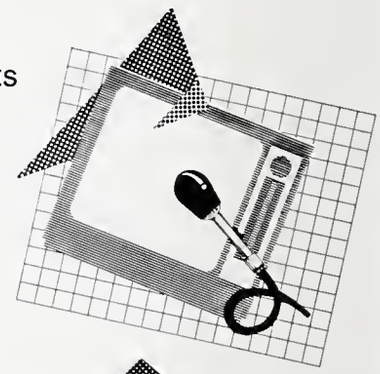
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CANCER MANAGEMENT PROBLEM

Carcinoma of the Larynx and Pharynx

*A. Reed Thompson, M.D., W. E. Atkinson, M.D., Anthony P. Bucolo, M.D., Alvah J. Nelson, III, M.D., and David H. Newbern, M.D.**

PROBLEM

A 56-year-old woman who had a previous diagnosis of squamous cell carcinoma of the larynx and the right pharynx presented for a discussion of her treatment options. She had a long history of smoking and chronic bronchitis. She continued to smoke two packs a day and had a persistent cough. She was also known to have cholelithiasis. She weighed 99 pounds. Approximately two months earlier she reported to her physician dull right-sided headache, neck pain, sinus symptoms with postnasal drip, and throat discomfort of one month duration. Her sinus symptoms were treated, and she continued to cough. Ten days later chest x-ray revealed a lesion in the right upper lobe, and she was given antibiotic therapy for two weeks. At the conclusion of this treatment additional chest x-ray revealed little change.

The patient was hospitalized. Sputum cytology showed class IV cells compatible with squamous carcinoma. During bronchoscopy a lesion in the larynx was detected. Direct laryngoscopy and biopsy revealed carcinoma involving the larynx and extending into the pharynx. Bronchial biopsies were negative as were washings and brushings from the lungs.

The patient reported that her planned treatment was to include a total laryngectomy and right radial neck dissection. The lesion in the lung was still undiagnosed.

PATHOLOGY REVIEW

Dr. Atkinson: The sections of the right pyriform sinus biopsy showed frankly invasive, moderately well-differentiated squamous cell carcinoma. The sections of the vocal cord biopsies revealed necrotic squamous call carcinoma. The sputum cytologist revealed squamous call carcinoma probably representing contamination from above. The sections of the right upper lobe of the right lung showed benign segments of bronchial mucosa.[1]

DIAGNOSTIC X-RAY REVIEW

Dr. Newbern: Chest films were reviewed, and an undiagnosed lesion appeared in the right upper lobe of the lungs. A diagnosis could be obtained by fine needle aspiration (FNA) of this lesion. Computerized tomography (CT) scan of the brain was reviewed and found to be normal. CT scans of the chest and neck were not available for review and were recommended to help delineate the lung lesion as well as establish the stage of the tumor of the larynx.[2,3,4]

SURGERY OPTION

Dr. Thompson: This patient needed total laryngectomy and partial pharyngectomy, followed by radiation to the neck for local recurrence. Flap reconstruction of the pharynx might be necessary because of the size of the tumor. The surgeon and the patient should be prepared for that possibility. Diagnosis of the lung lesion needed to be done before the surgery. If the area in the chest was malignant, then the postoperative radiation could include the neck and the area in the chest.

A small left neck node was felt upon examination. A fine needle aspiration of this might be helpful. The recommended CT scan of the neck could show many levels of enlarged node in both the right and left neck which would make the FNA unnecessary, or this suspicious node could be evaluated directly at the time of surgery.

A 70% chance that positive nodes were present in the neck existed. Enlarged nodes in the area would be removed by neck dissection at the time of surgery. The smaller occult metastases in the neck nodes would be sterilized with postoperative irradiation. She also would likely have retropharyngeal nodes that x-ray therapy would control better than surgery.

Because of the undernourished condition of this patient, hyperalimentation would be needed pre- and postoperatively. It was recommended that the treatment be given where the patient could receive complete rehabilitative care, e.g., social services, speech therapy and skilled nursing care by those specially trained in head and neck nursing.[5]

RADIATION THERAPY OPINION

Dr. Nelson: Radiation following surgery was the treatment of choice for this patient and should be started as soon

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as healing from the surgery takes place. If the area in the lung was cancer, postoperative radiation could include the area in the chest as well as the neck area.

If the patient elected not to have surgery done or if the lesion was inoperable, she could be treated by radiation alone, but the chances of cure are minimal. She could be treated with chemotherapy until such time as maximum benefit was obtained and then radiated. This combination therapy would offer a better chance for cure than radiation alone but was not recommended as a substitute for surgery and radiation.

MEDICAL ONCOLOGY OPINION

Dr. Bucolo: There is a role for chemotherapy in the treatment of head and neck malignancy. Sometimes a surgically unapproachable lesion is operable after chemotherapy. The drugs used to accomplish this are usually 5-fluorourcil, bleomycin and cis-platinum. However, in this case, the initial approach should be surgery.

CONSENSUS

The panel agreed that the lung lesion should be identified by fine needle aspiration. CT scans of the chest and neck were recommended to further identify the lung lesion and to properly stage the tumor of the larynx. Total laryngectomy, partial pharyngectomy with right neck dissection and probable flap reconstruction were recommended. Radiation to the neck could include radiation to the right upper lobe of the lung should the lung lesion turn out to be cancer. Both pre- and postoperative hyperalimentation would be needed on this patient.

Acknowledgement

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From Other Years

"From Other Years" is a collection of biographies of well known Arkansas physicians as well as interesting items from the Medical Society archives.

William Riley Brooksher, Jr., M.D.
1894 - 1971

*by Richard B. Clark, M.D.**

William Riley Brooksher, Jr., M.D., who with his father, was a pioneer in the use of x-ray in Fort Smith, was born in Fort Smith on December 8, 1894, the son of Dr. William Riley Brooksher, Sr., and Ida S. (Cox) Brooksher. He died in Fort Smith, September 4, 1971. Dr. Brooksher, Jr., received his B.A. degree from Ouachita Baptist College (now Ouachita Baptist University), Arkadelphia, Arkansas; graduated from Tulane University School of Medicine, and served an internship at New York Hospital. Returning to Fort Smith in 1920, he practiced with his father.

Dr. Brooksher served as president of the Sebastian County Medical Society in 1924. He served as secretary of the Arkansas Medical Society for nineteen years, and was named Secretary Emeritus in 1953. He was editor of *The Journal of the Arkansas Medical Society* from 1933 to 1954, and was president of the Arkansas Medical Society in 1954. He served in the American Medical Association House of Delegates from 1934-1954. A past president of the Arkansas Chapter of the American Cancer Society, he served many years on the Arkansas State Cancer Commission. In addition, Dr. Brooksher served on the Executive Committee of St. Edward Hospital in Fort Smith for forty years. He was director of the Department of Radiology at that hospital at the time of his death.

In 1958, the Arkansas Medical Society established the "Dr. and Mrs W. R. Brooksher Student Loan Fund", in his honor, to aid students training as medical technologists, x-ray technicians, physical therapists, occupational therapists, and medical social workers. Dr.



Brooksher was nominated to the National Medical Hall of Fame in St. Louis, Missouri.

Dr. Brooksher's wife, Peggy (Stephens) Brooksher, died in January, 1970. Their only child, William R. Brooksher, III, M.D., died in an automobile accident in Little Rock in 1962.

*Professor, Department of Anesthesiology and Obstetrics/Gynecology, University of Arkansas for Medical Sciences. Chairman, History Committee, College of Medicine

Medicine in the News

Proposed Reagan Budget to Slash Grants, GSLs

President Reagan's fiscal year 1988budget proposes to cut student federal grants by one-third, and loans by sixty percent.

The most popular federal grants, Pell grants, would lose 1.5 billion dollars and the Guaranteed Student Loan program would be cut from $3 billion to $1.2 billion from 1987 to 1988. In addition,, students would be required to pay interest accrued on loans while they are in school.

An AAMC study of 1985 medical school graduates showed an average debt of $29,942.

A 1983 AMA survey showed that education debts for residents was 147% of average first year stipends as compared with 70%, 42% and 43% of first-year salaries of law graduates, business school graduates and Ph.D.'s, respectively.

---- From Statements, Medical Student and Resident Physician News Briefs for State Medical Societies, February 15, 1987.

Magazine offers free subscription to M.D.s

Alcoholism & Addiction Magazine, a Cleveland, Ohio publication dealing with the causes and treatment of alcohol and drug addiction, is offering a free subscription to all the physicians in the United States.

John E. Kusik, Jr., president of the magazine, said that although physicians have become fully aware of the prevalence of alcohol and drug abuse, a large number encounter life threatening situations lacking the knowledge needed to deal with the complications introduced by chemical addiction.

The magazine will send a free subscription to any licensed physician who sends his request in writing on a sheet of letterhead paper. The address for *Alcoholism & Addiction Magazine* is 23860 Miles Road, Cleveland, Ohio 44128. Requests must be dated prior to April 30th.

Ouch! Look out for the PRO Bites

What is the PRO?

Pursuant to its contract with the Health Care Financing Administration of the Department of Health and Human Services, the peer review organization (PRO), shall enter into an agreement with the hospital in regard to the review of Title XVIII patients admitted to said hospital.

The PRO in Arkansas is the Arkansas Foundation for Medical Care. Reduction of medical costs without reduction in quality is the goal.

The PRO's review will determine if: the services and item are or were reasonable and necessary; the quality of the service meets professionally recognized standards of health care; the services proposed as inpatient services could have been provided in an outpatient setting, (consistent with the provision of appropriate care); items or services ordered or provided are supported by evidence of medical necessity and quality; the validity of diagnostic information; the completeness, adequacy and quality of care provided; the appropriateness of admissions and discharge.

The PRO accomplishes this mission through chart review. The Arkansas Health Foundation contracts with individuals (usually RN's or LPN's) to perform the initial reviews. Charts for review are picked by random selection, specific DRG diagnosis codes, and diagnoses requiring pre-admission certification.

If on review, the admission falls outside the criteria, that admission becomes suspect. A physician then reviews this chart. When 20% of your admissions fall into this area, you graduate to 100% chart review.

Continued failure of a physician meeting established thresholds of action might result in recommendations of requirement to obtain specific continuing medical education; restriction of admission privileges for individual physicians; recommend provider review facilities available for treatment of patients; recommendation of substantial sanction or gross and flagrant if quality issues are prominent.

Sanctioning includes non-payment for services, removal (temporary or permanent from Medicare reimbursements), and/or fines.

The best defense is a good offense. Know the rules of the game - who and when you can admit and what the discharge criteria are. If you have a questionable case, ask your reviewer prior to hospitalization. Your case will rest on your documentation of facts in the chart. Be sure to write legible progress notes, read the nurses' notes and ancillary notes and address any discrepancies in reported findings. You can obtain a copy of the AFMC, Inc., contract with your hospital and a list of admission and discharge criteria for your medical records department. Ignorance of the rules in not an acceptable excuse.

Learn what the generic screening criteria are (obtain these from your hospital) and learn what the generic quality screens are. Lists are available.

If you are asked to come before the Board and defend a case, be prepared. Do your homework.

It is important that you belong to the group monitoring your admissions and discharges. Join the Arkansas Health Foundation today and keep abreast of the changes in hospital and physician monitoring as they occur. Have your record department share with you the information sent to them by HCFA and the Arkansas Foundation. If you have questions about an admission, you can contact your local reviewer or call the office, 785-2471, in Fort Smith.

For information about joining, write the Arkansas Foundation for Medical Care, 101 North Sixth Street, Fort Smith, Arkansas 72902.

There is no pesticide or insecticide that will eradicate the PRO bug. Hiding doesn't help. Preventive measures - learning the rules and good documentation of your admissions are your best bet to avoid getting bit by the PRO bug.

---From the Arkansas Academy of Family Physicians Newsletter, February 1987.

Ulcer therapy that won't go up in smoke

- For over 50 years, reports in the medical literature have linked cigarette smoking and duodenal ulcer disease.[1] While it is obviously in the patient's best interest to quit smoking, this does not always occur.
- "The adverse effect of cigarette smoking on the healing rate of duodenal ulcers has been demonstrated in patients treated with placebo, antacid, cimetidine, or ranitidine."[2]
- However, a recently published study[3] indicates that CARAFATE® (sucralfate) offers equally efficacious healing rates in smokers and nonsmokers.

Carafate Healing Rates[3]

4 Weeks	
Smokers	78% (31/40)
Nonsmokers	74% (25/34)
8 Weeks	
Smokers	83% (33/40)
Nonsmokers	85% (29/34)

- Carafate works through a unique, nonsystemic mechanism of action that enhances the body's own natural healing ability and protects the damaged mucosa from further injury.
- Next time you are faced with a duodenal ulcer patient who refuses to quit smoking, Carafate is a logical choice.



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Please see adjoining page for references and brief summary of prescribing information.

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BRIEF SUMMARY

CONTRAINDICATIONS
There are no known contraindications to the use of sucralfate

PRECAUTIONS
Duodenal ulcer is a chronic, recurrent disease. While short-term treatment with sucralfate can result in complete healing of the ulcer, a successful course of treatment with sucralfate should not be expected to alter the post-healing frequency or severity of duodenal ulceration.

Drug Interactions: Animal studies have shown that the simultaneous administration of CARAFATE with tetracycline, phenytoin, or cimetidine will result in a statistically significant reduction in the bioavailability of these agents. This interaction appears to be nonsystemic in origin, presumably resulting from these agents being bound by CARAFATE in the gastrointestinal tract. The bioavailability of these agents may be restored simply by separating the administration of these agents from that of CARAFATE by two hours. The clinical significance of these animal studies is yet to be defined.

Carcinogenesis, Mutagenesis, Impairment of Fertility: No evidence of drug-related tumorigenicity was found in chronic oral toxicity studies of 24 months' duration conducted in mice and rats at doses up to 1 gm/kg (12 times the human dose). A reproduction study in rats at doses up to 38 times the human dose did not reveal any indication of fertility impairment. Mutagenicity studies have not been conducted.

Pregnancy: Pregnancy Category B. Teratogenicity studies have been performed in mice, rats, and rabbits at doses up to 50 times the human dose and have revealed no evidence of harm to the fetus due to sucralfate. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when sucralfate is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS
Adverse reactions to sucralfate in clinical trials were minor and only rarely led to discontinuation of the drug. In studies involving over 2,500 patients, adverse effects were reported in 121 (4.7%). Constipation was the most frequent complaint (2.2%). Other adverse effects, reported in no more than one of every 350 patients, were diarrhea, nausea, gastric discomfort, indigestion, dry mouth, rash, pruritus, back pain, dizziness, sleepiness, and vertigo.

DOSAGE AND ADMINISTRATION
The recommended adult oral dosage for duodenal ulcer is 1 gm four times a day on an empty stomach.

Antacids may be prescribed as needed for relief of pain but should not be taken within one-half hour before or after sucralfate.

While healing with sucralfate may occur during the first week or two, treatment should be continued for 4 to 8 weeks unless healing has been demonstrated by x-ray or endoscopic examination.

HOW SUPPLIED
CARAFATE (sucralfate) 1-gm pink tablets are supplied in bottles of 100 and in Unit Dose Identification Paks of 100. The tablets are embossed with MARION/1712. Issued 3/84

References:

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ZOVIRAX®
(acyclovir)
CAPSULES

Prevent genital herpes recurrences month after month with daily therapy.

(In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.)

Please see last page of this advertisement for brief summary of prescribing information.

ZOVIRAX® (acyclovir) CAPSULES

Help free your patients from recurrences.

Daily therapy

Coping with genital herpes is rarely easy. For some, the worst part is the pain and discomfort of frequent attacks—month after month, year after year. For others, the emotional burden presents a more difficult problem, leading to social isolation, anxiety, and diminished self-esteem.

Prevent or reduce recurrences

Although your patients have to live with herpes, they shouldn't have to suffer. Daily therapy with ZOVIRAX CAPSULES can help free them from the cycle of recurrent genital herpes. For many, one capsule three times a day can suppress recurrences completely while on therapy.

Generally well tolerated

Daily therapy with ZOVIRAX CAPSULES is generally well tolerated. The most frequent adverse reactions reported during clinical trials were headache, diarrhea, nausea/vomiting, vertigo, and arthralgia.

The physical and emotional difficulties posed by genital herpes are unique for each patient. The frequency and severity of recurrent episodes, as well as the emotional impact of the disease, should be considered when selecting daily therapy with ZOVIRAX CAPSULES.

Please see brief summary of prescribing information on next page.



Prevent recurrences month after month*

ZOVIRAX®

(acyclovir)

CAPSULES

Brief Summary

INDICATIONS AND USAGE: Zovirax Capsules are indicated for the treatment of initial episodes and the management of recurrent episodes of genital herpes in certain patients.

The severity of disease is variable depending upon the immune status of the patient, the frequency and duration of episodes, and the degree of cutaneous or systemic involvement. These factors should determine patient management, which may include symptomatic support and counseling only, or the institution of specific therapy. The physical, emotional and psychosocial difficulties posed by herpes infections as well as the degree of debilitation, particularly in immunocompromised patients, are unique for each patient, and the physician should determine therapeutic alternatives based on his or her understanding of the individual patient's needs. Thus Zovirax Capsules are not appropriate in treating all genital herpes infections. The following guidelines may be useful in weighing the benefit/risk considerations in specific disease categories:

First Episodes (primary and nonprimary infections — commonly known as initial genital herpes):

Double-blind, placebo-controlled studies have demonstrated that orally administered Zovirax significantly reduced the duration of acute infection (detection of virus in lesions by tissue culture) and lesion healing. The duration of pain and new lesion formation was decreased in some patient groups. The promptness of initiation of therapy and/or the patient's prior exposure to Herpes simplex virus may influence the degree of benefit from therapy. Patients with mild disease may derive less benefit than those with more severe episodes. In patients with extremely severe episodes, in which prostration, central nervous system involvement, urinary retention or inability to take oral medication require hospitalization and more aggressive management, therapy may be best initiated with intravenous Zovirax.

Recurrent Episodes:

Double-blind, placebo-controlled studies in patients with frequent recurrences (6 or more episodes per year) have shown that Zovirax Capsules given for 4 to 6 months prevented or reduced the frequency and/or severity of recurrences in greater than 95% of patients. Clinical recurrences were prevented in 40 to 75% of patients. Some patients experienced increased severity of the first episode following cessation of therapy; the severity of subsequent episodes and the effect on the natural history of the disease are still under study.

The safety and efficacy of orally administered acyclovir in the suppression of frequent episodes of genital herpes have been established only for up to 6 months. Chronic suppressive therapy is most appropriate when, in the judgement of the physician, the benefits of such a regimen outweigh known or potential adverse effects. In general, Zovirax Capsules should not be used for the suppression of recurrent disease in mildly affected patients. Unanswered questions concerning the human relevance of *in vitro* mutagenicity studies and reproductive toxicity studies in animals given very high doses of acyclovir for short periods (see Carcinogenesis, Mutagenesis, Impairment of Fertility) should be borne in mind when designing long-term management for individual patients. Discussion of these issues with patients will provide them the opportunity to weigh the potential for toxicity against the severity of their disease. Thus, this regimen should be considered only for appropriate patients and only for six months until the results of ongoing studies allow a more precise evaluation of the benefit/risk assessment of prolonged therapy.

Limited studies have shown that there are certain patients for whom intermittent short-term treatment of recurrent episodes is effective. This approach may be more appropriate than a suppressive regimen in patients with infrequent recurrences.

Immunocompromised patients with recurrent herpes infections can be treated with either intermittent or chronic suppressive therapy. Clinically significant resistance, although rare, is more likely to be seen with prolonged or repeated therapy in severely immunocompromised patients with active lesions.

CONTRAINDICATIONS: Zovirax Capsules are contraindicated for patients who develop hypersensitivity or intolerance to the components of the formulation.

WARNINGS: Zovirax Capsules are intended for oral ingestion only.

PRECAUTIONS: General: Zovirax has caused decreased spermatogenesis at high doses in some animals and mutagenesis in some acute studies at high concentrations of drug (see PRECAUTIONS — Carcinogenesis, Mutagenesis, Impairment of Fertility). The recommended dosage and length of treatment should not be exceeded (see DOSAGE AND ADMINISTRATION).

Exposure of Herpes simplex isolates to acyclovir *in vitro* can lead to the emergence of less sensitive viruses. The possibility of the appearance of less sensitive viruses in man must be borne in mind when treating patients. The relationship between the *in vitro* sensitivity of Herpes simplex virus to acyclovir and clinical response to therapy has yet to be established.

Because of the possibility that less sensitive virus may be selected in patients who are receiving acyclovir, all patients should be advised to take particular care to avoid potential transmission of virus if active lesions are present while they are on therapy. In severely immunocompromised patients, the physician should be aware that prolonged or repeated courses of acyclovir may result in selection of resistant viruses which may not fully respond to continued acyclovir therapy.

Drug Interactions: Co-administration of probenecid with intravenous acyclovir has been shown to increase the mean half-life and the area under the concentration-time curve. Urinary excretion and renal clearance were correspondingly reduced.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Acyclovir was tested in lifetime bioassays in rats and mice at single daily doses of 50, 150 and 450 mg/kg given by gavage. There was no statistically significant difference in the incidence of tumors between treated and control animals, nor did acyclovir shorten the latency of tumors. In 2 *in vitro* cell transformation assays, used to provide preliminary assessment of potential oncogenicity in advance of these more definitive life-time bioassays in rodents, conflicting results were obtained. Acyclovir was positive at the highest dose used in one system and the resulting morphologically transformed cells formed tumors when inoculated into immunosuppressed, syngeneic, weanling mice. Acyclovir was negative in another transformation system considered less sensitive.

In acute studies, there was an increase, not statistically significant, in the incidence of chromosomal damage at maximum tolerated parenteral doses of 100 mg/kg acyclovir in rats but not Chinese hamsters; higher doses of 500 and 1000 mg/kg were clastogenic in Chinese hamsters. In addition, no activity was found after 5 days dosing in a dominant lethal study in mice. In 6 of 11 microbial and mammalian cell assays, no evidence of mutagenicity was observed. At 3 loci in a Chinese hamster ovary cell line, the results were inconclusive. In 2 mammalian cell assays (human lymphocytes and L5178Y mouse lymphoma cells *in vitro*), positive responses for mutagenicity and chromosomal damage occurred, but only at concentrations at least 400 times the acyclovir plasma levels achieved in man.

Acyclovir has not been shown to impair fertility or reproduction in mice (450 mg/kg/day, p.o.) or in rats (25 mg/kg/day, s.c.). At 50 mg/kg/day s.c. in the rat, there was a statistically significant increase in post-implantation loss, but no concomitant decrease in litter size. In female rabbits treated subcutaneously with acyclovir subsequent to mating, there was a statistically significant decrease in implantation efficiency but no concomitant decrease in litter size at a dose of 50 mg/kg/day. No effect upon implantation efficiency was observed when the same dose was administered intravenously. In a rat peri- and postnatal study at 50 mg/kg/day s.c., there was a statistically significant decrease in the group mean numbers of corpora lutea, total implantation sites and live fetuses in the F_1 generation. Although not statistically significant, there was also a dose related decrease in group mean numbers of live fetuses and implantation sites at 12.5 mg/kg/day and 25 mg/kg/day, s.c. The intravenous administration of 100 mg/kg/day, a dose known to cause obstructive nephropathy in rabbits, caused a significant increase in fetal resorptions and a corresponding decrease in litter size. However, at a maximum tolerated intravenous dose of 50 mg/kg/day in rabbits, there were no drug-related reproductive effects.

Intraperitoneal doses of 320 or 80 mg/kg/day acyclovir given to rats for 1 and 6 months, respectively, caused testicular atrophy. Testicular atrophy was persistent through the 4-week postdose recovery phase after 320 mg/kg/day; some evidence of recovery of sperm production was evident 30 days postdose. Intravenous doses of 100 and 200 mg/kg/day acyclovir given to dogs for 31 days caused aspermatogenesis. Testicles were normal in dogs given 50 mg/kg/day, i.v. for one month.

Pregnancy: ***Teratogenic Effects:*** Pregnancy Category C. Acyclovir was not teratogenic in the mouse (450 mg/kg/day, p.o.), rat (50 mg/kg/day, s.c.) or rabbit (50 mg/kg/day, s.c. and i.v.). There are no adequate and well-controlled studies in pregnant women. Acyclovir should not be used during pregnancy unless the potential benefit justifies the potential risk to the fetus. Although acyclovir was not teratogenic in animal studies,. the drug's potential for causing chromosome breaks at high concentration should be taken into consideration in making this determination.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Zovirax is administered to a nursing woman. In nursing mothers, consideration should be given to not using acyclovir treatment or discontinuing breastfeeding.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS — Short-Term Administration: The most frequent adverse reactions reported during clinical trials were nausea and/or vomiting in 8 of 298 patient treatments (2.7%) and headache in 2 of 298 (0.6%). Less frequent adverse reactions, each of which occurred in 1 of 298 patient treatments (0.3%), included diarrhea, dizziness, anorexia, fatigue, edema, skin rash, leg pain, inguinal adenopathy, medication taste and sore throat.

Long-Term Administration: The most frequent adverse reactions reported in studies of daily therapy for 3 to 6 months were headache in 33 of 251 patients (13.1%), diarrhea in 22 of 251 (8.8%), nausea and/or vomiting in 20 of 251 (8.0%), vertigo in 9 of 251 (3.6%), and arthralgia in 9 of 251 (3.6%). Less frequent adverse reactions, each of which occurred in less than 3% of the 251 patients (see number of patients in parentheses), included skin rash (7), insomnia (4), fatigue (7), fever (4), palpitations (1), sore throat (2), superficial thrombophlebitis (1), muscle cramps (2), pars planitis (1), menstrual abnormality (4), acne (3), lymphadenopathy (2), irritability (1), accelerated hair loss (1), and depression (1).

DOSAGE AND ADMINISTRATION: Treatment of initial genital herpes: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 10 days (total 50 capsules).

Chronic suppressive therapy for recurrent disease: One 200 mg capsule 3 times daily for up to 6 months. Some patients may require more drug, up to one 200 mg capsule 5 times daily for up to 6 months.

Intermittent Therapy: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 5 days (total 25 capsules). Therapy should be initiated at the earliest sign or symptom (prodrome) of recurrence.

Patients With Acute or Chronic Renal Impairment: One 200 mg capsule every 12 hours is recommended for patients with creatinine clearance ≤ 10 ml/min/1.73/m^2.

HOW SUPPLIED: Zovirax Capsules (blue, opaque) containing 200 mg acyclovir and printed with "Wellcome ZOVIRAX 200"- Bottles of 100 (NDC-0081-0991-55) and unit dose pack of 100 (NDC-0081-0991-56).

Store at 15°-30°C (59°-86°F) and protect from light.

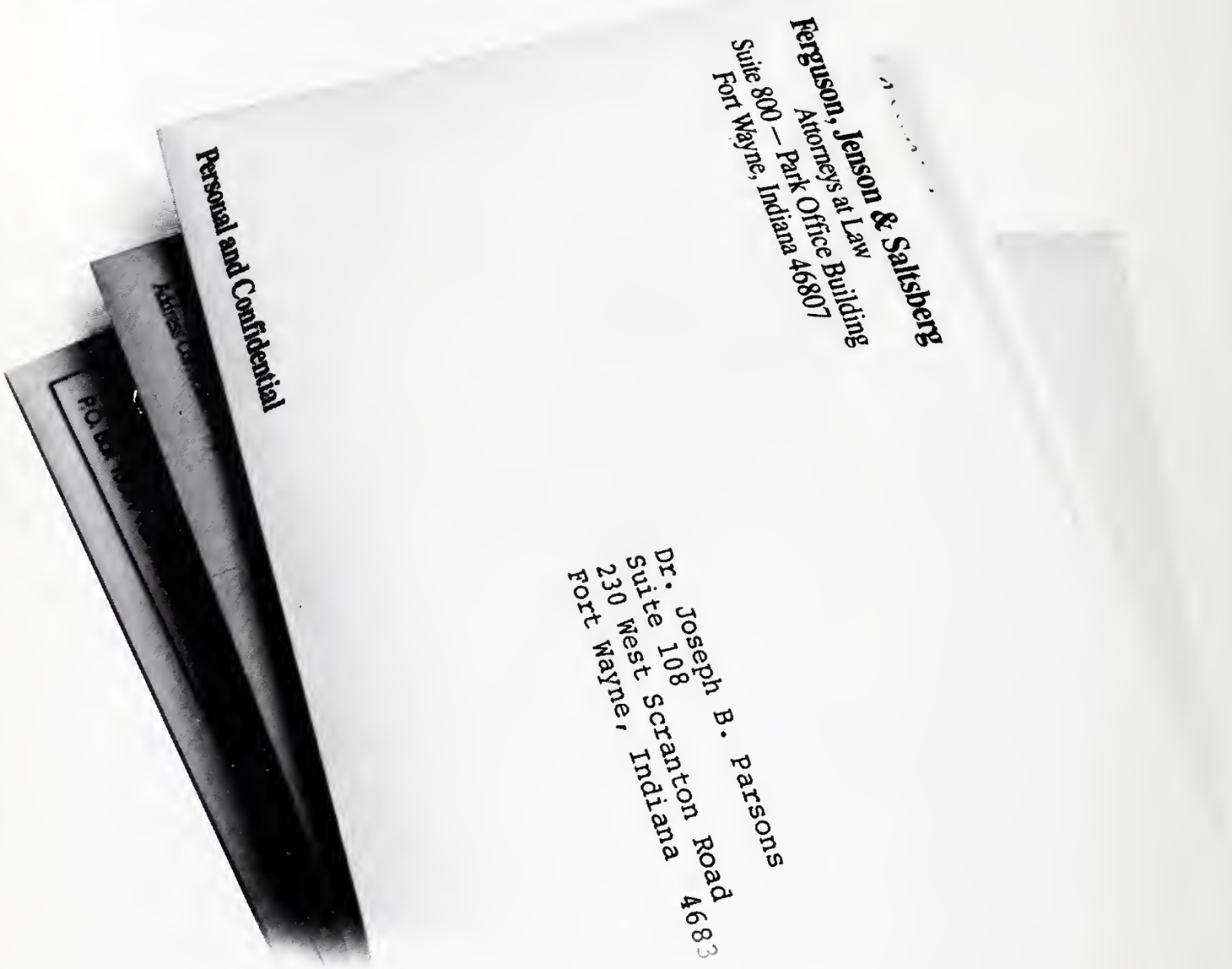
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*In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.

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KEEPING UP

Emergency Medicine Update 1987

April 30-May 1, registration 6:45 a.m., seminar begins a 7:45 a.m.. Sponsored by the Baptist Medical Center. Little Rock Hilton, Little Rock. Fifteen Category I credit hours; fifteen EMT credits for the two days and seven credits for one day. Fee: $150 for physicians; $30 for nurses, paramedics, EMT's and other interested allied health professionals. For further information contact: BMC Medical Education Center, 227-2672.

Annual W. W. Stead Arkansas Chest Symposium

May 2-3, time to be announced. Presented by William W. Stead, M.D. Sponsored by UAMS Office of Continuing Education for Physicians and the Arkansas Chapter of the American College of Emergency Physicians. Lake DeGray State Park Lodge, Arkadelphia. Seven Category I hours.

ATLS Provider Course

May 2-3, 8:00 a.m. - 6:00 p.m. Presented by Robert W. Barnes, M.D., and Charles D. Mabry, M.D. Sponsored by UAMS Office of Continuing Education for Physicians. UAMS Education Building, Little Rock. Sixteen Category I credit hours. Fee: $425.

Diagnosis and Management of Hyperlipidemias

May 6, 12:00 noon. Presented by Peter Howard Jones, M.D., Assistant Professor of Medicine, Section of Atherosclerosis and Lipid Research. Sponsored by AHEC-Fort Smith. One hour Category I credit. Sparks Regional Medical Center, Seventh Floor Dining Room

Second Annual Current Issues in Organ Procurement and Transplantation Symposium

May 9, Time to be announced. Presented by John E. Buerkert, M.D. Sponsored by the UAMS Office of Continuing Education for Physicians. Excelsior Hotel, Little Rock. Seven Category I credit hours. Fees to be announced.

Annual Meeting of the Arkansas Chapter of the American College of Surgeons

June 12-13, 7:30 a.m. - 12:00 noon. Presented by Nicholas P. Lang, M.D. and Samuel E. Landrum, M.D. Sponsored by UAMS Office of Continuing Education for Physicians. The Red Apple Executive Conference Center, Eden Isle, Heber Springs. Seven Category I credit hours. Fee: Non-ACS members, $25.00.

Arkansas Caduceus Club Annual Alumni Weekend/Scientific Session.

June 12-14, time to be announced. Presented by Louis L. Sanders, M.D., Sponsored by UAMS Office of Continuing Education for Physicians. UAMS Education Building, Little Rock. Three Category I credit hours. Fee to be announced.

Sports Medicine, 1987

June 13, time to be announced. Sponsored by Baptist Medical Center. For further information contact: BMC Medical Education Center, 227-2672.

Regional Perinatal Conference

June 18, 6:00 p.m.-8:30 p.m. and June 19, 8:00 a.m.-3:45 p.m.. Presented by Frank C. Miller, M.D. Sponsored by UAMS Office of Continuing Education for Physicians. Kings Inn Conference Center, El Dorado. Six and three-quarters Category I hours. Fee: $25.00.

Ninth Annual Family Practice Intensive Review

June 19-21, time to be announced. Presented by Ben N. Saltzman, M.D. Sponsored by UAMS Office of Continuing Education for Physicians. UAMS Education Building, Room G131, Little Rock. Twenty-one Category I credit hours. Fees: Physicians, $200; Physician's Assistants, $100; Residents, students and full-time UAMS faculty, $25.

Hormonal Replacement Therapy in Menopause - Calcium Metabolism

June 23, 7:00 p.m. Presented by Steve N. London, M.D., Department of Gynecology, UAMS. Sponsored by Baxter County Regional Hospital. Education Building, Baxter County Regional Hospital, Mountain Home. Two Category I credits.

ATLS Provider Course

June 27-28, 8:00 a.m.-6:00 p.m. Presented by Robert W. Barnes, M.D. and Charles D. Mabry, M.D. Sponsored by UAMS Office of Continuing Education for Physicians. UAMS Education Building, Little Rock. Sixteen Category I credit hours. Fee: $425.

Recurring Education Programs

EL DORADO - AHEC

Behavioral Sciences Conference, first and fourth Friday, 12:15 p.m., AHEC - South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m., Warner Brown Hospital.
Fracture Conference, third Tuesday, 12:15 p.m., AHEC-South Arkansas.
Gynecology-Pathology Conference, second Friday, 12:15 p.m., AHEC-South Arkansas.
Internal Medicine Conference, first, second and fourth Wednesday, 12:15 p.m., AHEC-South Arkansas.
Pathology Conference, second Tuesday, 12:15 p.m., AHEC-South Arkansas.
Pharmocology Conference, second Thursday, 12:15 p.m., AHEC-South Arkansas.
Obstetrics-Gynecology Conference, fourth Thursday, 12:15 p.m., AHEC-South Arkansas.
Surgical Conference, first, second and third Monday, 12:15 p.m., AHEC-South Arkansas.
Tumor Clinic, fourth Tuesday, 12:15 p.m., AHEC-South Arkansas.

FAYETTEVILLE - AHEC NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m., Baker Conference Room, Washington Regional Medical Center.

FAYETTEVILLE - VA MEDICAL CENTER

Medical Conference, each Wednesday, 12:00 noon, Conference Room, Building 1, VAMC.
Pathology/Mortality Conference, each Friday, 12:30 p.m., Surgical Suite, VAMC.

FORT SMITH-AHEC

Dermatology Conference, first Thursday, 12:00 noon, Sparks Regional Medical Center.
Family Practice Conference, third Wednesday, 12:00 noon, Sparks Regional Medical Center.
Neurology Conference, second Thursday, 12:00 noon, Sparks Regional Medical Center.

HOT SPRINGS-AMI NATIONAL PARK MEDICAL CENTER

Continuing Medical Education Luncheon, varying topics, second and fourth Friday, 12:30 p.m., Classrooms, AMI National Park Medical Center.

JONESBORO-AHEC NORTHEAST

AHEC Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., Arkansas Methodist Hospital, Paragould.
Chest Conference, fourth Thursday, 12:00 noon, St. Bernard's Dietary Conference Room.
Independence County Medical Society, second Tuesday, 7:30 p.m., White River Medical Center, Batesville.
Interesting Case Conference, second and fifth Tuesday, when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Kennett Tumor Conference, second Tuesday (every other month), Twin Rivers Regional Medical Center, Kennett, Mo.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Cafeteria, Methodist Hospital of Jonesboro.
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Newport Tumor Conference, second Wednesday, 12:00 noon, rotates each month between Harris Clinic and Newport Hospital.
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Poplar Bluff Tumor Conference, third Wednesday, 12:00 noon, Lucy Lee Hospital, Poplar Bluff.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

LITTLE ROCK-ARKANSAS CHILDREN'S HOSPITAL

Alternating Sub-Specialty Conference, third Wednesday, 12:00 noon, Second Floor Classroom.
General Pediatrics Seminar, first and third Friday, 12:00 noon, Second Floor Classroom.
Genetics Conference, each Wednesday, 12:00 noon, Sturgis Building, Room 457.
Infections Disease Conference, second Wednesday, 12:00 noon, Sturgis Building, Room 121.
Oncology Conference, third Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Sturgis Building, Auditorium.
Pediatric Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room.
Pediatric Neuroscience Conference, first Thursday, 8:00 a.m., Second Floor Classroom.
Pediatric Pathology Conference, first Wednesday, 12:00 noon, Second Floor Classroom.
Pediatric Pharmacology Conference, fifth Wednesday when applicable, 12:00 noon, Second Floor Classroom.
Pediatric Radiology Conference, first and third Thursday, 12:00 noon, Second Floor Classroom.
Pediatric Research Conference, third Monday, 12:00 noon, Second Floor Classroom.
Problem Case Conference, second and fourth Friday, 12:00 noon, Second Floor Classroom.
Respiratory Care Case Conference, each Monday, 3:00 p.m., Second Floor Classroom.

LITTLE ROCK-ST. VINCENT INFIRMARY

Cancer Conference, first Wednesday, 12:00 noon, CARTI Auditorium. A meal is provided.
Cancer Conference, third and fourth Thursday, 12:00 noon, Room S1174K, Lab. A meal is provided.

General Medicine Journal Club, each Tuesday, 12:00 noon, Medical Affairs Conference Room. Bring your lunch.
Hematology-Oncology Conference, second Thursday, 12:00 noon, Laboratory Library. A meal is provided.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m., Classroom 1, Education Wing. Refreshments are provided.
Neuropathology Conference, third Tuesday, 5:00 p.m., Room S1174K, Lab. Refreshment are provided.
Pediatric Conference, first Tuesday, 12:30 p.m., Classroom 1, Education Wing. A meal is provided.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m., Classroom 1, Education Wing. A meal is provided.
Pulmonary Conference, second and fourth Wednesday, 12:00 noon, Classroom 1, Education Wing. A meal is provided.

LITTLE ROCK-UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

ACRC/CARTI Tumor Conference, each Wednesday, 12:00 noon, CARTI, Markham and University, Little Rock.
ACRC Oncology Forum, fourth Thursday, 4:00 p.m., UAMS Education Building, Room G137.
Anesthesia Lecture Series, each Wednesday and Thursday, 4:00 p.m., UAMS Education Building, Room G/110 A & B.
Anesthesia Morbidity and Mortality Conference, each Tuesday, 6:45 a.m. (Wednesday afternoon only during last week of the month at 4:00 p.m.), UAMS Education Building, Room G/110 A&B.
Interdisciplinary Gynecologic Cancer Conference, each Friday, 12:30 p.m., UAMS Education Building, Room G/106 A&B.
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.
Medicine Research Conference, each Tuesday, 8:00 a.m., UAMS Shorey Building Room 8/105.
Ob/Gyn Grand Rounds, each Wednesday, 7:30 a.m., UAMS Education Building, Room G/131B.
Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m., UAMS AAC Eye Clinic, Room 3/150.
Orthopaedic Basic Science Conference, each Tuesday, 11:00 a.m., UAMS Education Building, Room B/135.
Orthopaedic Bibliography Conference, each Tuesday, 8:30 a.m., UAMS Education Building, Room B/135.
Orthopaedic Fracture Conference, each Tuesday, 7:30 a.m., UAMS Education Building, Room B/135.
Orthopaedic Grand Rounds, each Tuesday, 10:00 a.m., UAMS Education Building, Room B/135.
Psychiatry Grand Rounds, each Friday, 11:00 a.m., UAMS Shorey Auditorium.
St. Vincent Urology Grand Rounds, first Tuesday, 5:30 p.m., St. Vincent Infirmary, Education Building Room 159.
Surgery Grand Rounds, each Saturday, 9:00 a.m., UAMS Education Building, Room G/131.
Surgical Science Conference, each Saturday, 8:00 a.m., UAMS Education Building Room G/131.
Urologic Topics, once or twice monthly, 5:00 p.m., UAMS.
Urology Grand Rounds, twice monthly, 5:00 p.m., VAMC.
Urology Morbidity and Mortality Workshop, last Wednesday, UAMS.
Uro-Radiology Workshop, first Thursday, 5:00 p.m., UAMS.
VA Medical Service Teaching Conference, each Thursday, 8:00 a.m., NLRVA, Building 66, Room 38.
VA Research Methods Conference, first Wednesday, 12:00 noon, VAMC, Room 1E122.
VA Surgery Grand Rounds, each Thursday, 12:45 p.m., VAMC, Room 2D109.
VA Topics in Rehabilitation Medicine, each Thursday, 7:45 a.m., NLRVA Conference Room, Building 89L.
VA Weekly Cancer Conference (Surgical Service), each Tuesday, 1:00 p.m., VAMC, Room 2D109.

LITTLE ROCK-BAPTIST MEDICAL CENTER

Anesthesiology Conference, third Thursday, 7:00 a.m., Conference Room 1.
Emergency Medicine Board Review, second Tuesday, 6:00 p.m., Third Floor Conference Room, Doctor's Park Building.
Grand Rounds Conference, each Wednesday, 12:00 noon, Conference Room 1. Lectures and Case Presentations. A light lunch will be served.
Pathology Conference, third Tuesday, 3:00 p.m., Pathology Library. Case Presentations.
Pulmonary Conference, each Tuesday, 12:00 noon, Shuffield Auditorium. Lunch served for $1.75.
Surgery Conference, each Thursday, 7:30 a.m., Shuffield Auditorium. Lectures and Case Presentations.

PINE BLUFF - AHEC

Behavioral Science Conference, each Thursday, 12:30 p.m., Jefferson Regional Medical Center.
Chest Conference, second and fourth Friday, 12:30 p.m., Jefferson Regional Medical Center.
Family Practice Conference, fourth Tuesday, 12:30 p.m., Jefferson Regional Medical Center.
Internal Medicine Conference, second and fourth Wednesday, 12:30 p.m., Jefferson Regional Medical Center.
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m., Jefferson Regional Medical Center.
Pediatric Conference, third Wednesday, 12:30 p.m., Jefferson Regional Medical Center.
Radiology Conference, third Tuesday, 12:30 p.m., Jefferson Regional Medical Center.
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood County Club. Dinner meeting.
Sub-Specialty Conference, first Tuesday, 12:30 p.m., Jefferson Regional Medical Center.
Surgery Conference, first Wednesday, 12:30 p.m., Jefferson Regional Medical Center.

TEXARKANA-AHEC

Chest Conference, May 20, 12:30 p.m., St. Michael Hospital.
Neuro-Radiology Conference, second and fourth Wednesday, 7:00 a.m. breakfast, Wadley Regional Medical Center.
Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

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Things to Come

May – July

MAY 2-9

Doppler and 2-D Echocardiography Symposium. Sponsored by the Institute for Medical Studies, Loyola University. Newport Beach, California. Up to 39 hours Category I credit available. Fee: $895.00. For more information contact: Lisa Kreibiel, Institute for Medical Studies, 30131 Town Center Drive, Suitte 215, Laguna Niguel, CA 92677; (714) 495-4499.

MAY 2-10

Fifth Annual Lodon Spring Seminar in Medical Diagnostic Imaging. Sponsored by Medical Seminars Insternational. London, England. 18 Category I hours available. Fee: $435.00. For more information contact: Spring Seminar, 21915 Roscoe Boulevard, Suiie 222, Canoga Park, CA 91304; (818) 340-0580, ext. 280.

MAY 4-8

Post Graduate Institute for Emergency and Primary Care Physicians, Symposia I, II, and III and Optional Advanced Emergency Procedures Laboratory. Sponsored by the University of California, San Diego, Office of Continuing Medical Education. San Diego, California. Symposium begins May 4th and continue through August, 1988. Up to 32 Category I credit hours available. For further information on dates and fees, contact: Office of Continuing Medical Education, UC San Diego School of Medicine, M-017, La Jolla, CA 92093; (619) 534-3940.

MAY 9

Rehabilitation Medicine: Current General Applications. Sponsored by Fort Smith Rehabilitation Hospital and AHEC-Fort Smith. Category I credit available. Topics include Stroke rehab, multiple sclerosis, head injury, spinal cord injury, orthopedic rehab, and orthotics/prosthetics applications. The meeting will feature nationally known physician speakers from rehabilitation hospitals in U.S. For more information contact: Pamela Duke, Seminar Coordinator, Fort Smith Rehabilitation Hospital, 1401 South "J" Street, Fort Smith, AR 72901; (501) 785-3300.

MAY 16-20

Computing in Anesthesia and Intensive Care. Sponsored by the University of California, San Diego. U.S. Grant Hotel, San Diego, California. Category I credit available. Fee: $300 for physicians and $200 for fellows, residents and other interested health professionals. For further information contact: Office of Continuing Medical Education, M-017, UC San Diego School of Medicine, La Jolla, CA 92093; (619) 534-3940.

MAY 20-23

Group Psychotherapy. Sponsored by the Menninger Foundation. Seeley Conference Center, The Menninger Foundation, Topeka, KS. Twenty Category I credit hours. Fee: $265. Registration deadline: April 29th. For more information contact: Jane Bolte, The Menninger Foundation, Box 829, Topeka, KS 66601 (913) 273-7500, ext. 5992.

MAY 28-30

Forty-Ninth Annual Meeting of the Louisiana-Mississippi Ophthalmological and Otoparyngological Society. Sponsored by the LA-MS O & O Society. Broadwater Beach Hotel, Biloxi, Mississippi. For more information contact: La-Ms O & O Society, Post Office Box 12314, Jackson, MS 39236; (601) 956-7787.

JUNE 3-5

Comprehensive Treatment in Partial Hospitalization: A Systems Perspective. Sponsored by the Menninger Foundation. Seeley Conference Center, The Menninger Foundation, Topeka, KS. Sixteen Category I credit hours. Fee: $185 per person, $170 each for three or more persons from the same agency. Registration deadline May 12th. For further information contact: Jane Bolte, The Menninger Foundation, Post 829, Topeka, KS 66601; (913) 273-7500, ext. 5992.

JUNE 7-13

Doppler and 2-D Echocardiography. Sponsored by the Institute for Medical Studies, Loyola University. Chicago, Illinois. Up to 39 Category I credit hours. For further information contact: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Laguna Niguel, CA 92677; (714) 495-4499.

JUNE 11-13

Current Advances in Pediatric Practice: Thirty-Second Annual Great Smoky Mountain Pediatric Seminar. Sponsored by the University of Tennessee, Department of Pediatrics. Knoxville,

Tennessee. Category I credit available. For further information contact: Dr. Sandra Loucks, University of Tennessee Memorial Research Center and Hospital, Department of Pediatrics, 1924 Alcoa Highway, Knoxville, TN 37920; (615) 544-9331.

JUNE 14-27

Health Care in Kenya. Sponsored by the University of Arkasnas at Little Rock, Division of Lifelong Education and Professional Development. Kenya, South Africa. Tour includes four days in Nairobi with a seminar by local health care experts and vitis to Kenyatta National Hospital. The remainer of the program will be in towns, villages and rural areas and game parks with a safari-type tented camping trip. Continuing education credit available. For further information contact: Dr. Gene Stanford, Arkansas Children's Hospital, 800 Marshall Street, Little Rock, AR 72202; (501) 370-1149 or (501) 224-4020.

JUNE 25-27

Second National Conference on Cancer Prevention and Detection. Sponsored by the American Cancer Society. Westin Hotel, Seattle, Washington. Fifteen hours of Category I credit available. Fee: Prior to June 15; $200 for physicians; $100 for all other health professionals. Fee after June 15: $250 for physicians and $150 for all other health professionals. For further information contact: American Cancer Society, Second National Conference on Cancer Prevention and Detection, 90 Park Avenue, New York, NY 10016; (212) 736-3030.

JULY 3-8

Family Practice Board Review. Sponsored by the Office of Continuing Medical Education, University of California San Diego School of Medicine. Hanalei Hotel, San Diego, California. Twenty-nine Category I credit hours. Fee: $395. For further information contact: Office of Continuing Medical Education, UC San Diego School of Medicine, M-017, La Jolla, CA 92093; (619) 534-3940.

JULY 16-18 and JULY 23-25

July 16: Advances in Cardiology. July 23: Common Emergencies in General Medicine. Sponsored by the University of Massachusetts Medical School, Berkshire Medical Center and Berkshire AHEC. Country Inn and Conference Center at Jiminy Peak, Hancock, Massachusetts. Sixteen Category I credit hours. Fee: $295 (one conference); $500 (two conferences). For further information contact: Berkshire AHEC, 725 North Street, Pittsfield, MA 01201; (413) 499-4161, ext. 2417.

JULY 18

Interoperative Radiation: A New Combined Treatment Approach to Cancer. Sponsored by the University of Kansas Medical Center. University of Kansas Medical center, Kansas City, KS. AMA, AAFP, and CNE credit available. For further information contact: Eileen Buttron, University of Kansas Medical Center, Office of Continuing Education, 39th and Rainbow Boulevard, Kansas City, KS 66103; (913) 588-4480.

JULY 23-25

Cardiology Update. Sponsored by the Institute for Medical Studies, Loyola University. Minneapolis, Minnesota. Category I credit to be announced. For further information contact: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suiie 215, Laguna Niguel, CA 92677; (714) 495-4499.

JULY 27-31

Sports Medicine Update 1987. Sponsored by the Office of Continuing Medical Education, UC San Diego School of Medicine. San Diego Princess at Vacation Village, San Diego, CA. Up to 29.5 credit hours available. Fee: $325, physicians; $225, allied health professionals and resident; $30, each optional workshop. For further information contact: Office of Coutinuing Medical Education, UC San Diego School of Medicine, M-017, La Jolla, CA 92093; (619) 534-3940.

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Personal and News Items

Dr. Ronald Revard, a Bentonville internist, has been appointed to the Bates Memorial Hospital Board of Trustees. Dr. Revard practices at the Diagnostic and Performance Clinic in Bentonville.

The new medical director of the Greenleaf Center-Jonesboro is **Dr. Jerry D. Blaylock**. The center, which opened in March, is a new 60-bed psychiatric hospital . Dr. Blaylock is a Jonesboro psychiatrist.

Dr. Willard G. Burks and Dr. James Jacobs, two family practitioners in Wynne, were selected as new officers at the Cross County Hospital. Dr. Burks is the new chief of staff and Dr. Jacobs is the staff secretary.

The Delta Medical Center in Brinkley has elected **Dr. N. C. David** as chief of staff. Dr. David is a family practitioner in Brinkley.

New officers have been elected at St. Edwards Mercy Medical Center. **Dr. Robert D. McKinney**, a Greenwood family practitioner, was elected chief of staff. Chief of Staff-Elect is a Fort Smith pulmonary disease physician, **Dr. William Webb. Dr. James Deneke**, a Fort Smith rheumatologist, was elected secretary.

Dr. John Worrell, a Fort Smith radiologist, has recently completed a six-month fellowship at Yale University. Dr. Worrell was a visiting assistant professor of radiology and a fellow in Diagnostic Fetal Cardiovascular and Doppler Ultrasound and Magnetic Resonance Imaging while at Yale.

Several physicians taught special classes in a seven-week series on women's health at Westark Community College. The physicians participating and their topics were: "Premenstral Syndrome", **Miguel Berumen, M.D.**, Fort Smith obstetrician/gynecologist; "Estrogen Replacement Therapy-Osteoporosis", **W. P. Phillips, M.D.**, Fort Smith gynecologist; "Do I Have to Get Fat as I Get Older?", **Paul Pradel, M.D.**, Fort Smith internist. **Dr. James Deneke** presented a program on "Aches and Pains" and **Dennis Fecher, M.D.**, spoke on "Common Cancers in Women". Dr. Fecher is an oncologist from Fort Smith. The series was co-sponsored by AHEC and UAMS. **Dr. Larry Price** was the coordinator.

Newly elected members of the Stone County Medical Center are **Dr. James Zini**, Chief of Staff, and **Dr. Carl Beck**, Secretary-treasurer. Dr. Zini and Dr. Beck are Mountain View family physicians.

New Members

BAXTER COUNTY MEDICAL SOCIETY

FONTICIELLA, ADALBERTO, General Surgeon, Mountain Home. Born August 23, 1956, Ladillas, Cuba. Pre-medical education, Miami Beach Community College, Miami Beach, FL, 1977, and UCE University, San Pedro De Macoris, Dominican Republic, 1978. Medical education, UCE University-San Pedro De Macoris, Dominican Republic and CETEC University-Santo Domingo, Dominican Republic, 1981. Internship and Residency, Methodist Medical Center, Dallas, TX. Private Practice, United Health Care, one year; Mountain Home, one year. Member, Dallas and Texas Medical Societies; American Medical Students Society.

BENTON COUNTY MEDICAL SOCIETY

RITZ, RALPH C., Internal Medicine, Gravette. Born September 18, 1950, Tulsa, OK. Pre-medical education, University of Tulsa, B.S., 1972 Medical education, Oklahoma College of Osteopathic Medicine and Surgery, 1978. Internship and Residency, Oklahoma Osteopathic Hospital. Military, U. S. Public Health Service (Indian Health), 1979-83. Board certified, American College of Osteopathic Internists.

COLUMBIA COUNTY MEDICAL SOCIETY

HESTER, JOE D., Ophthalmology, Magnolia. Born, November 27, 1951, Blytheville. Pre-medical education, Hendrix College, B.A., 1973. Medical education, University of Arkansas for Medical Sciences, 1978. Internship and Residency, Louisiana State University Medical Center, Shreveport. Private practice, Camden, four years; Magnolia, six months. Board certified, American Board of Ophthalmologists.

MURPHY, FRED Y., Internal Medicine, Magnolia. Born December 9, 1954, Pasadena, CA. Pre-medical education, Baylor University, B.S., 1977. Medical education, University of Arkansas for Medical Sciences, 1983. Internship and Residency, UAMS. Board certified, American Board of Internal Medicine.

INDEPENDENCE COUNTY MEDICAL SOCIETY

ROURK, JOHN H., General Surgery, Batesville. Born February 27, 1953, Helena. Pre-medical education, Hendrix College, B.A., 1975 and University of Arkansas, M.S., 1979. Medical education, UAMS, 1981. Internship, University of Mississippi Medical Center Program, Jackson. Residency, University of Mississippi Medical Center Program and UAMS. Board eligible.

MILLER COUNTY MEDICAL SOCIETY

SMOLARZ, GREGORY J., Orthopaedics, Texarkana. Born February 12, 1952, Nurnburg, Germany. Pre-medical education, Austin College, B.A., 1974 and East Texas State University, M.S., 1976. Medical education, University of Texas Medical Branch

Hospitals, Galveston, 1981. Internship and Residency, Louisiana State University, Shreveport.

MISSISSIPPI COUNTY MEDICAL SOCIETY

McLEAN, JOSEPH A., Family Practice, Wilson. Born May 20, 1956, Denver, CO. Pre-medical education, Southwestern Adventist College, B.S., 1977. Medical education, Loma Linda University, Loma Linda, CA, 1982. Internship, Hinsdale Family Practice. Board certified.

PULASKI COUNTY MEDICAL SOCIETY

BOYLE, RONALD H., Psychiatry, Little Rock. Born January 6, 1938. Pre-medical education, Henderson State Teachers College, Arkadelphia. Medical education, University of Arkansas for Medical Sciences, 1964. Internship, St. Francis Hospital, Wichita, KS. Residency, Psychiatry, UAMS. Private practice, Arkansas Psychiatry Clinic, 1970-76; Ozark Clinic, 1976 to present.

FITZGERALD, CHARLES P., Internal Medicine/Cardiology, Little Rock. Born January 17, 1954, Frankfort, KY. Pre-medical education, Vanderbilt University, Nashville, TN, B.S., 1976. Medical education, Vanderbilt University, 1980. Internship, Vanderbilt University Affiliated Hospitals. Residency, University of Texas Health Sciences Center, Dallas. Member, Dallas County Medical Society, Dallas, TX. Board certified, Internal Medicine.

HARRIS, FRANCES R., Internal Medicine, Little Rock. Born January 18, 1954, Little Rock. Pre-medical education, Philander Smith College, B.S., 1976. Medical education, UAMS, 1980. Internship and Residency, UAMS.

HODGES, STEVEN C., Radiology, Little Rock. Born July 7, 1954, Ann Arbor, MI. Pre-medical education, University of Texas, Austin, B.A., 1975. Medical education, University of Michigan Medical School, Ann Arbor, 1980. Internship and Residency, University of Texas Health Sciences Center, Dallas. Previous practice, Shermon Radiology Associated,Sherman; Department of Radiology, Parkland Memorial Hospital, Dallas; Wilson N. Jones Memorial Hospital, Sherman; and Medical Plaza Hospital, Sherman. Member, Dallas County and Grayson County Medical Societies. Board certified, Diplomate, Radiology.

SEBASTIAN COUNTY MEDICAL SOCIETY

AXELSEN, NILS K., Orthopedic/Spinal Surgery, Fort Smith. Born September 27, 1955, Galveston, TX. Pre-medical education, Southern Methodist University, B.A., 1977. Medical education, Baylor College of Medicine, 1981. Internship and Residency, Baylor College of Medicine. Board eligible.

WASHINGTON COUNTY MEDICAL SOCIETY

BILLINGSLEY, ROBERT E., JR., Psychiatry, Fayetteville. Born April 14, 1954, Portales, NM. Pre-medical education, University of Arkansas, B.A., 1976. Medical education, University of Arkansas for Medical Sciences, 1979. Internship and Residency, Letterman Army Medical Center, San Francisco, CA. Military, U. S. Army,seven years. Previous practice, three years. Board certified, Psychiatry.

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In Memorium

DR. JOHN K. SIGLER

Dr. John K. Sigler, aged 45, died Saturday, January 3, 1987. Dr. Sigler was a Fort Smith pathologist and a board certified orthopedic surgeon.

Dr. Sigler was a Vietnam veteran and a member of the First United Methodist Church administrative board as well as a member of the Fort Smith Rotary Club.

Dr. Sigler is survived by his wife, Sandra; two daughters, Kirsten and Elizabeth; a son John; his mother, Margaret Sigler of Fort Smith, and a sister, Viki Bailey, also of Fort Smith.

DR. MARTIN P. MEISENHEIMER

Dr. Martin P. Meisenheimer, III, 68, of Cherokee Village, died January 31, 1987. Dr. Meisenheimer was a retired family physician.

Dr. Meisenheimer was a charter fellow of the American Academy of Family Physicians and a diplomate of the American Board of Family Practice. He was a member of the American Medical Association, Chicago Medical Society, and the American Academy of Family Practice. He also was an Emeritus member of the Arkansas Medical Society, and a member of the Arkansas Academy of Family

physician. He was a past secretary-treasurer of the Tri-County Medical Society. Dr. Meisenheimer was a member of the vestry at St. Andrew's Episcopal Church.

Dr. Meisenheimer is survived by his wife, Mrs. Hellen "Betty" Meisenheimer; four sons, Dr. Martin Meisenheimer IV of Carmel, Ind., Dr. Karl Meisenheimer and Eric Meisenheimer, both of Las Vegas, Nev., and Rex Meisenheimer of Portland, Ore; a daughter, Miss Lisa Meisenheimer of Salt Lake City, Utah; a stepson, Dr. Richard J. Rizzo of Salt Lake City, Utah; a stepdaughter, Mrs. Nancy Mcguire of Auburn, Maine, and a sister, Mrs. Doris Leubrie of Oak Park, Ill.

DR. CLYDE DUDLEY RODGERS

Dr. Clyde Dudley Rodgers, of Little Rock, died February 6, 1987. He was 82.

Dr. Rodgers was a retired obstetrician and retired clinical professor of obstetrics and gynecology at the University of Arkansas for Medical Sciences.

He was a fellow of the American College of Obstetrics and Gynecology, a past presient of the Pulaski County Medical Society and a member of the Central Association of Obstetricians and Gynecologists. He was also a Life Member of the Arkansas Medical Society and a former deacon of Second Presbyterian Church in Little Rock.

Survivors are his wife, LaVerne Rucker Rodgers; a son, Dr. C. Dudley Rodgers of Little Rock, a daughter, Elizabeth Deraps of Houston, Tex; a brother, Loyd Rodgers of Bayou Meto; and a sister, Ola Rodgers of Stuttgart.

DR. CLARK ERICKSON

Dr. Clark Erickson, aged 54, of Fort Smith died Sunday, March 15, 1987. He was a radiation oncologist at the Holt Krock Clinic as well as a retired Air Force colonel . Dr. Erickson was a Baptist.

Dr. Erickson is survived by his wife, Danielle Erickson; three sons, Stephen and Curtis Erickson, both of Little Rock and Mathew Erickson of Clarksville; a daughter Brook Ann Erickson of Fort Smith; a stepdaughter, Amy Roberts of Fort Smith; his parents, Mr. and Mrs. Albert Erickson of Brokaw, Wisconsin, a brother, Kenneth Erickson of Menominee, Wisconsin; and two sisters, Karen Ballwig of Madison, Wisconsin,and Jean Klever of Wausau, Wisconsin.

RESOLUTIONS

Whereas, the members of the Pulaski County Medical Society note with sincere sorrow the recent death of an esteemed Colleague, Clyde D. Rodgers, M.D.; and

Whereas, he had been a loyal member of the Society for fifty-seven years and was generous in his contributions of service for the betterment of the organization; and

Whereas, Dr. Rodgers served in countless positions of leadership in the Society, serving as its President in 1954; therefore be it

RESOLVED, that this resolution be adopted as a token of our appreciation of Dr. Rodgers' life; and

RESOLVED, that a copy be forwarded to Dr. Rodgers' family as an expression of our sincere sympathy; and

RESOLVED, that a copy be made available to the Journal of the Arkansas Medical Society for publication.

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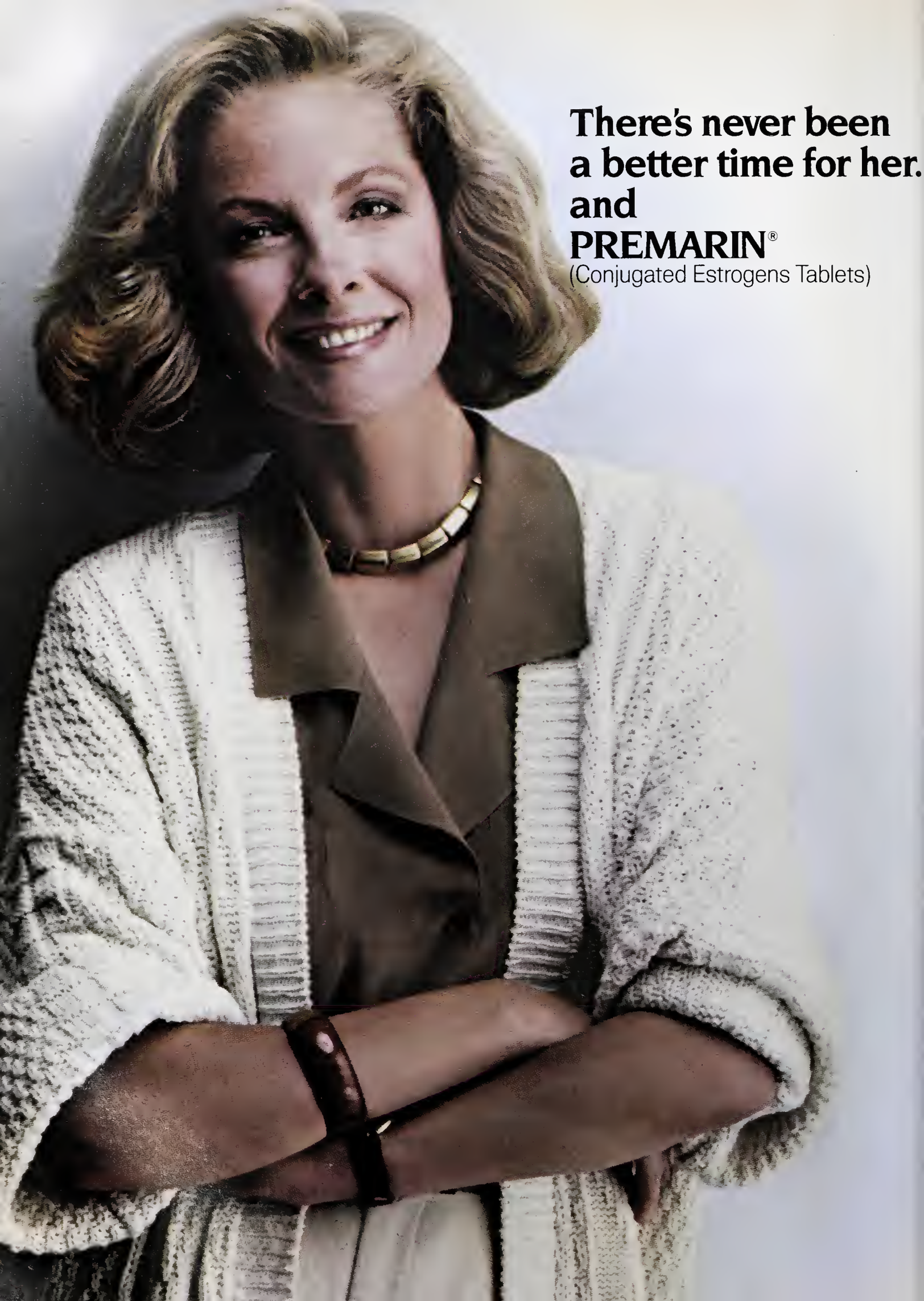


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(Conjugated Estrogens Tablets)

Now the evidence looks better than ever

Significantly reduced risk of endometrial hyperplasia

Endometrial hyperplasia was significantly reduced when progestin was added to PREMARIN therapy for more than ten days a month.[1-4] The risk of endometrial hyperplasia may also be reduced through cyclic administration of unopposed, low-dose PREMARIN.

Effect on lipids—an important feature

PREMARIN used alone does not adversely affect lipid levels. In fact, a clinical study has shown a significant increase in HDL cholesterol—from 49.7 mg/dL to 56.4 mg/dL—and decrease in LDL cholesterol—from 165.1 mg/dL to 138.1 mg/dL—after one year of therapy with PREMARIN, 0.625 mg.[5]

Low-dose control of menopausal symptoms*

PREMARIN effectively relieves vasomotor symptoms, such as hot flashes. When estrogen deficiency is limited to atrophic vaginitis, PREMARIN® (conjugated estrogens) Vaginal Cream restores the vaginal environment to its premenopausal state.

The most widely used, most extensively studied estrogen worldwide.

PREMARIN®
(Conjugated Estrogens Tablets)

Most trusted for more reasons

*PREMARIN is indicated for moderate-to-severe vasomotor symptoms.

Please see following page for brief summary of prescribing information.

For moderate-to-severe vasomotor symptoms

PREMARIN®
(Conjugated Estrogens Tablets)



0.3 mg 0.625 mg 0.9 mg 1.25 mg 2.5 mg

The appearance of these tablets is a trademark of Ayerst Laboratories.

For atrophic vaginitis

PREMARIN®
(Conjugated Estrogens)

Vaginal Cream

0.625mg/g



BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION AND PATIENT INFORMATION, SEE PACKAGE CIRCULARS.)*

PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream in a nonliquefying base

1. ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK OF ENDOMETRIAL CARCINOMA.

Three independent case control studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer. These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade. The three case control studies reported that the risk of endometrial cancer in estrogen users was about 4.5 to 13.9 times greater than in nonusers. The risk appears to depend on both duration of treatment and on estrogen dose. In view of these findings, when estrogens are used for the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible. When prolonged treatment is medically indicated, the patient should be reassessed on at least a semiannual basis to determine the need for continued therapy. Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration; it therefore appears prudent to utilize such a regimen. Close clinical surveillance of all women taking estrogens is important. In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy. There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equiestrogenic doses.

2. ESTROGENS SHOULD NOT BE USED DURING PREGNANCY

The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring. It has been shown that females exposed in utero to diethylstilbestrol, a non-steroidal estrogen, have an increased risk of developing in later life a form of vaginal or cervical cancer that is ordinarily extremely rare. This risk has been estimated as not greater than 4 per 1,000 exposures. Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix. Although these changes are histologically benign, it is not known whether they are precursors of malignancy. Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes. Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb reduction defects. One case control study estimated a 4.7-fold increased risk of limb reduction defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment for threatened abortion). Some of these exposures were very short and involved only a few days of treatment. The data suggest that the risk of limb reduction defects in exposed fetuses is somewhat less than 1 per 1,000. In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion. There is considerable evidence that estrogens are ineffective for these indications, and there is no evidence from well controlled studies that progestogens are effective for these uses. If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation.

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine. It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters. Tablets are available in 0.3 mg, 0.625 mg, 0.9 mg, 1.25 mg, and 2.5 mg strengths of conjugated estrogens. Cream is available as 0.625 mg conjugated estrogens per gram.

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets, USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause. (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions.) **Osteoporosis (abnormally low bone mass).** Atrophic vaginitis. Kraurosis vulvae. Female castration.

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae. PREMARIN HAS NOT BEEN SHOWN TO BE EFFECTIVE FOR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING).

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized. Studies of the addition of a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia. Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes. Whether this will provide protection from endometrial carcinoma has not been clearly established. There are possible additional risks which may be associated with the inclusion of progestin in estrogen replacement regimens. (See PRECAUTIONS.) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects.

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions: 1. Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease. 2. Known or suspected estrogen-dependent neoplasia. 3. Known or suspected pregnancy (See Boxed Warning). 4. Undiagnosed abnormal genital bleeding. 5. Active thrombophlebitis or thromboembolic disorders. 6. A past history of thrombophlebitis, thrombosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy).

WARNINGS: Long-term continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver. There are now reports that estrogens increase the risk of carcinoma of the endometrium in humans. (See Boxed Warning.) At the present time there is no satisfactory evidence that estrogens given to postmenopausal women increase the risk of cancer of the breast, although a recent study has raised this possibility. There is a need for caution in prescribing estrogens for women with a strong family history of breast cancer or who have breast nodules, fibrocystic disease, or abnormal mammograms. A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens.

Adverse effects of oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women for postpartum breast engorgement. Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke, and myocardial infarction. Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users. An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives. If feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization. Estrogens should not be used in persons with active thrombophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use. They should be used with caution in patients with cerebral vascular or coronary artery disease. Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nonfatal myocardial infarction, pulmonary embolism and thrombophlebitis. When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk.

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock. Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives. Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use. A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives. For this reason, diabetic patients should be carefully observed. Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases.

PRECAUTIONS: Physical examination and a complete medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear. As a general rule, estrogen should not be prescribed for longer than one year without another physical examination being performed. Conditions influenced by fluid retention such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation. Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc. Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients. Oral contraceptives appear to be associated with an increased incidence of mental depression. Patients with a history of depression should be carefully observed. Preexisting uterine leiomyomata may increase in size during estrogen use. The pathologist should be advised of estrogen therapy when relevant specimens are submitted. If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated. Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not complete. If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism.

The following changes may be expected with larger doses of estrogen:

a. Increased sulfobromophthalein retention.

b. Increased prothrombin and factors VII, VIII, IX, and X; decreased antithrombin 3; increased norepinephrine-induced platelet aggregability.

c. Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T4 by column, or T4 by radioimmunoassay. Free T3 resin uptake is decreased, reflecting the elevated TBG; free T4 concentration is unaltered.

d. Impaired glucose tolerance.

e. Decreased pregnanediol excretion.

f. Reduced response to metyrapone test.

g. Reduced serum folate concentration.

h. Increased serum triglyceride and phospholipid concentration. As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk.

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives: breakthrough bleeding, spotting, change in menstrual flow; dysmenorrhea; premenstrual-like syndrome; amenorrhea during and after treatment; increase in size of uterine fibromyomata; vaginal candidiasis, change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, bloating; cholestatic jaundice; chloasma or melasma which may persist when drug is discontinued; erythema multiforme; erythema nodosum; hemorrhagic eruption; loss of scalp hair; hirsutism; steepening of corneal curvature; intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea; increase or decrease in weight; reduced carbohydrate tolerance; aggravation of porphyria; edema; changes in libido.

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females.

DOSAGE AND ADMINISTRATION:

PREMARIN® Brand of conjugated estrogens tablets, USP

1. *Given cyclically for short-term use only.* For treatment of moderate to severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0.3 to 1.25 mg or more daily). The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible. Administration should be cyclic (eg, three weeks on and one week off). Attempts to discontinue or taper medication should be made at three- to six-month intervals.

2. *Given cyclically:* Female castration. Osteoporosis. Female castration—1.25 mg daily, cyclically. Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control. Osteoporosis —0.625 mg daily. Administration should be cyclic (eg, three weeks on and one week off).

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

PREMARIN® Brand of conjugated estrogens Vaginal Cream

Given cyclically for short-term use only. For treatment of atrophic vaginitis or kraurosis vulvae.

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Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

References:

1. Whitehead MI, Townsend PT, Pryse-Davies J, et al: Effects of estrogens and progestins on the biochemistry and morphology of the postmenopausal endometrium. *N Engl J Med* 1981;305:1599-1605 **2.** Paterson MEL, Wade-Evans T, Sturdee DW, et al: Endometrial disease after treatment with oestrogens and progestogens in the climacteric. *Br Med J* 1980;280:822-824 **3.** Magos AL, Brincat M, Studd JWW, et al: Amenorrhea and endometrial atrophy with continuous oral estrogen and progestogen therapy in postmenopausal women. *Obstet Gynecol* 1985; 67: 496-499. **4.** Whitehead MI, Lane G, Siddle N, et al: Avoidance of endometrial hyperstimulation in estrogen-treated postmenopausal women. *Semin Reprod Endocrinol* 1983;1:1;41-52. **5.** Barnes RB, Roy S, Lobo RA: Comparison of lipid and androgen levels after conjugated estrogen or depo-medroxyprogesterone acetate treatment in postmenopausal women. *Obstet Gynecol* 1985;66:216-219.

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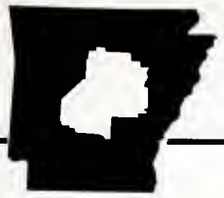
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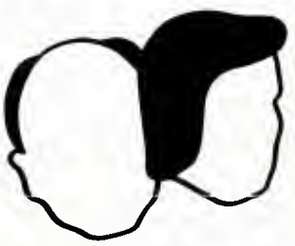
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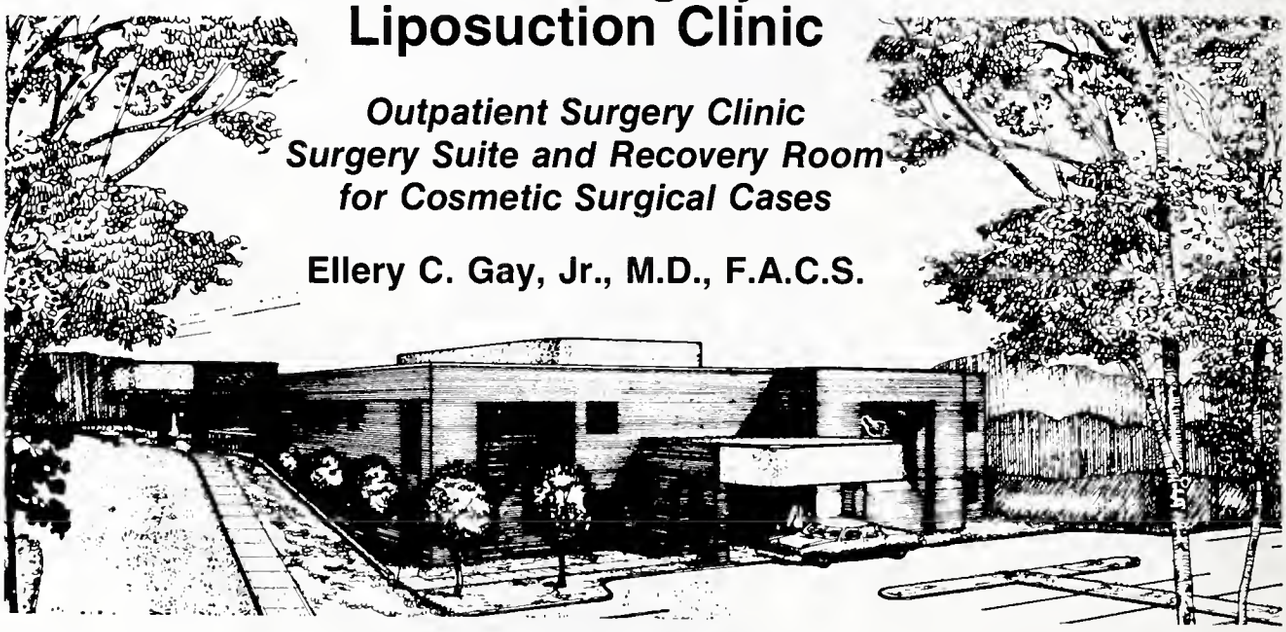
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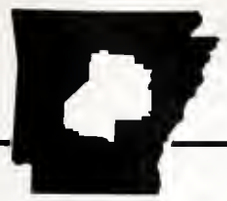
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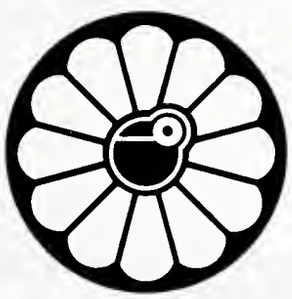
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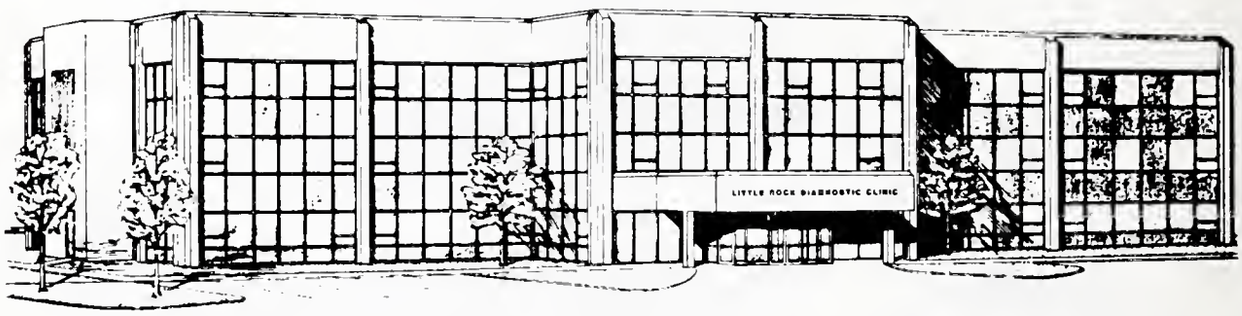
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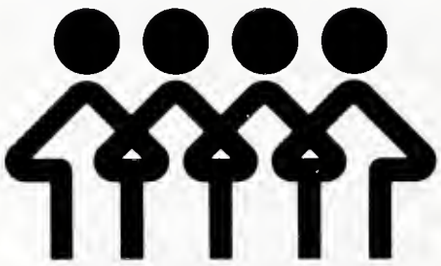
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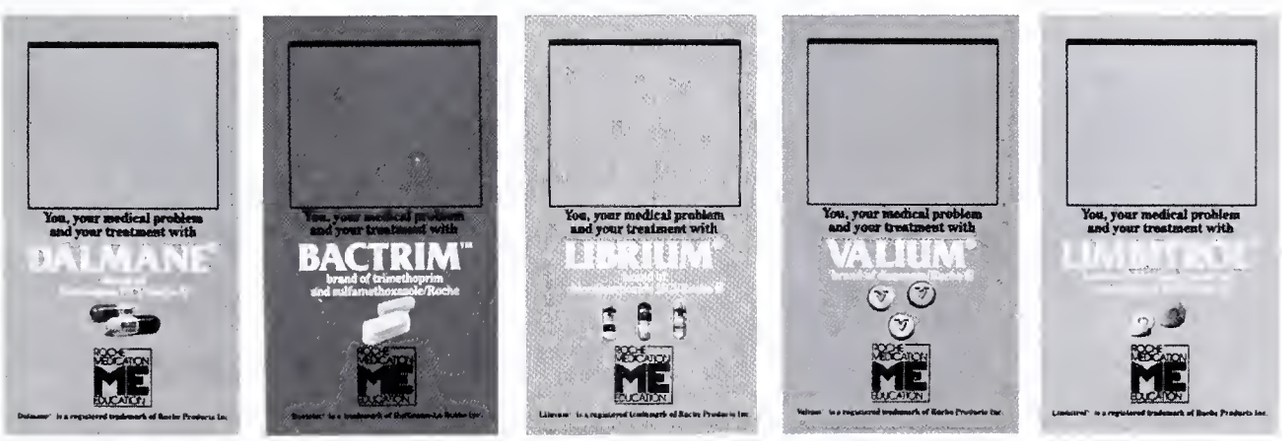
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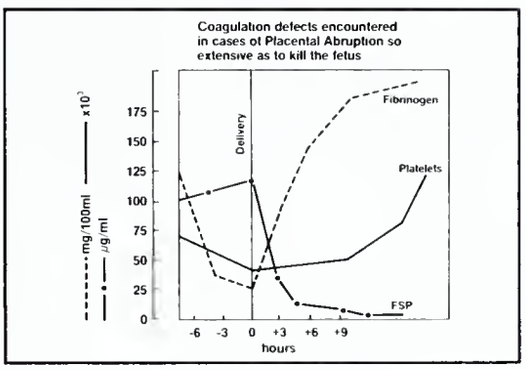
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SCIENTIFIC

Isolation of Echovirus Type 11 and Enterovirus Type 71 469

Abruptio Placenta 475

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The Journal of the Arkansas Medical Society Index 497

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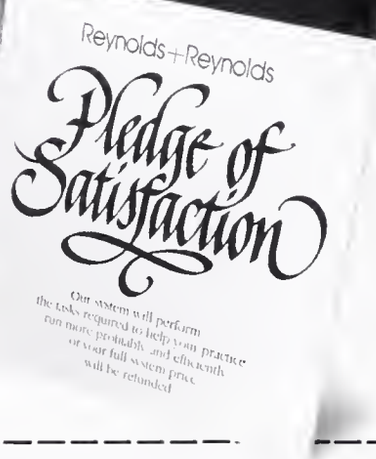
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CONTENTS

SCIENTIFIC ARTICLES

Isolation of Echovirus Type 11 and Enterovirus Type 71 in a Day Care Winter Outbreak 469
E. B. Moses, B.A., J. P. Narian, M.D., M.H. Hatch, and T. Yamauchi, M.D.

From Inpatient to Outpatient Cataract Surgery. 473
F. Hampton Roy, M.D.

Abruptio Placenta. 475
William Golden, M.D.

FEATURES

EKG of the Month 482
Cancer Management Problem 483
Tony A. Flippin, M.D., Harold D. Langston, M.D., Jerry L. Prather, M.D., and Don I Scott, M.D.
From Other Years 487
Medicine in the News. 487
Keeping Up 489
Things to Come. 492
New Members 495
The Journal of the Arkansas Medical Society Index - June 1986 - May 1987. 497

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Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when sucralfate is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS
Adverse reactions to sucralfate in clinical trials were minor and only rarely led to discontinuation of the drug. In studies involving over 2,500 patients, adverse effects were reported in 121 (4.7%). Constipation was the most frequent complaint (2.2%). Other adverse effects, reported in no more than one of every 350 patients, were diarrhea, nausea, gastric discomfort, indigestion, dry mouth, rash, pruritus, back pain, dizziness, sleepiness, and vertigo.

DOSAGE AND ADMINISTRATION
The recommended adult oral dosage for duodenal ulcer is 1 gm four times a day on an empty stomach.

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Isolation of Echovirus Type 11 and Enterovirus Type 71 in a Day Care Winter Outbreak

E. B. Moses, B.A.*, J. P. Narian, M.D., M.H. Hatch, and T. Yamauchi, M.D.

Introduction

Millions of children attend day care centers in the United States and outbreaks of many communicable diseases have resulted in these centers.[1,2] Reports of infections with various enteric pathogens have been quite frequent but surprisingly few outbreaks have been associated with enteroviruses. An outbreak comprising cases of aseptic meningitis and enteroviral illness associated with Echovirus type 11 and possibly Enterovirus type 71 in a day care center is reported below.

Materials and Methods

Epidemiological Setting

The affected day care center is one of twelve located in a northwestern town in the state of Arkansas with a population of 9,000. Thirty-six children regularly attended the center and were cared for by six day care personnel. Children less than two years of age were housed in cribs in a ground floor room and those over the age of three were housed in two first floor rooms. Other children did not have a specific room assignment. Generally, children brought their own lunches but sometimes food was cooked in the nursery. Milk was obtained from a commercial source. Diapers were changed twice daily and a common towel was used for drying of hands.

On December 14, 1982, the Arkansas State Health Department received a report from the local hospital that three children who attended the day care center were hospitalized with aseptic meningitis within 24 hours of each other. Epidemiological investigation included notification of all parents and questioning concerning illness.

Specimens

Specimens (stool, throat swab, cerebrospinal fluid) were collected from the three hospitalized patients. Throat swabs were also collected from 35 children present in the cay care center on the day of notification. All specimens were transported for processing to the Clinical Virology Laboratory at the University of Arkansas for Medical Sciences in Little Rock. Specimens were inoculated into cell cultures including primary rhesus monkey kidney, BGM (Buffalo Green monkey), HEp2, and human diploid fibroblasts which were observed microscopically for viral cytopathic effects. Viruses were identified by neutralization tests following routine procedures. Paired sera (acute phase collected on December 22, 1982 and convalescent phase approximately six weeks later) were obtained from one hospitalized patient, six day care center children, and six family members (adults), one of whom manifested illness. Single serum specimens were obtained from an additional twelve day care center children, twelve family members and six day care personnel. Sera were sent to the Centers for Disease Control in Atlanta for neutralizing antibody titers determined by conventional methods.

*Department of Microbiology and Immunology, University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Arkansas72205.

Results

Clinical Findings

Fourteen of the remaining day care center children were identified as having enteroviral illness with at least two symptoms of fever, sore throat, coryza, vomiting, diarrhea and irritability. Respiratory symptomatology was a common finding. One additional child was hospitalized for tonsilitis. No illness occurred among personnel caring for the children. Twenty-four households had children in the day care center consisting of 45 household members and symptomatology compatible with enterovirus illness was recorded for eight adults and one older sibling who did not attend the day care center. The overall attack rate was 20 percent. Interviews with pediatricians and medical practitioners in the area revealed no unusual increase of upper respiratory or gastrointestinal illness in their practice. A nearby day care center of comparable size did not report enteroviral illness among their children.

Virus Isolations

Of the three patients hospitalized with aseptic meningitis, Echovirus type 11 was recovered from the throat and rectal swabs from two patients. Cerebrospinal fluids from the three cases yielded negative results. Echovirus

type 11 was also recovered from throat swabs of two day care center children with enteroviral symptoms. An interesting finding was the isolation of Enterovirus type 71 from the throat swab of an additional child with enteroviral symptoms. Echovirus type 11 was recovered by throat swab from two of the remaining healthy day care center children. Enterovirus type 71 was found in one other child and herpes simplex virus in another.

Serology

Antibody titers obtained for paired sera are shown in Table 1 and for single sera in Table 2. The presence of Echovirus type 11 was reinforced by antibody studies. A rise in antibody titer (4 fold) was demonstrated in one day care center child and one household member. Both had entroviral illness. A decline in antibody titer was observed in one healthy household member. High antibody titers were recorded for six day care center children. A change in status to Enterovirus type 71 was observed in two day care center children with enteroviral illness demonstrated by a decline in titer. Patterns of antibody titers obtained with single sera revealed relatively high titers to Echovirus type 11 in 19 individuals and for Enterovirus type 71 in seven. Not shown in Table 2 are results for one health day care center child whose serum yielded a titer of 640 to Echovirus type 11 and $\geq$ 10,000 to Enterovirus type 71.

Discussion

While many other enteric agents have been implicated in outbreaks in day care centers, reports of enteroviruses have not been frequent and these virus were not listed as causes of infections in a review of infectious diseases in day care centers.[1,2] In 1985, a report of an outbreak of diarrhea in a day care center in Ontario, Canada was found to be associated with Coxsackievirus type B3 when the virus was also widespread in children in the southern region of the province at the time.[3]

Clinical manifestations in children involved in the day care center outbreak reported here presented a spectrum of response ranging from aseptic meningitis to enteroviral illness to asymptomatic infection. This is compatible with recorded experiences of outbreaks of enteroviral disease in closed populations as well as communities.[4] One feature of the outbreak may be worthy of note, namely occurrence in the winter months. This situation is not entirely unique because winters tend to be rather mild in Arkansas and isolations of enteroviruses occur throughout the year. During this period other enteroviruses were isolated elsewhere in the state but laboratory studies were not carried out in this community other than those directly involving the day care center.

Echovirus type 11 is an important pathogen. It has been implicated in outbreaks,[5,6] intrauterine infection,[7] fatal infection,[8] and arthritis.[9] Isolation and serological studies support the involvement of Echovirus type 11 in the outbreak reported here. There are not enough data to draw strong conclusions about the role of Enterovirus type 71. This virus is thought to be a cause of severe enteroviral disease.[10] Enterovirus type 71 has only been isolated in this state on one other occasion and that was in 1984.

A major problem in day care centers focuses around diaper age children and the need for adequate sanitation

Table I. Neutralizing antibody titers for paired sera collected in day care center outbreak

			Echovirus Type 11		Enterovirus Type 71	
		Age	Acute	Conval	Acute	Conval
Day Care Center Children Hospitalized						
	GF*	2 mo.	$\geq$1280	$\geq$1280	<5	<5
Enteroviral Illness						
	AF*	3 yr.	640	640	<5	<5
	MD	3 yr.	640	640	5	5
	JF	6 yr.	80	320	5	10
	EIF	20 mo.	$\geq$1280	$\geq$1280	<5	<5
	EdF	3 yr.	$\geq$1280	$\geq$1280	2560	320
	PS	22 mo.	$\geq$1280	$\geq$1280	320	80
Household Members (Adult)						
Enteroviral Illness	JF	31 yr.	<10	80	<5	<5
Healthy	MD	34 yr.	<10	<10	<5	<5
	LF	33 yr.	20	20	5	5
	CPa	28 yr.	320	80	10	10
	CPe	28 yr.	160	320	80	ND
	CS	30 yr.	<10	<10	<5	<5

*Echovirus type 11 isolated.

Table II. Neutralizing antibody titers for single sera collected in day care center outbreak

	Echovirus Type 11			Enterovirus Type 71		
	<10	10-40	160-≥1280	<5	5-80	160-≥1280
Day Care Center Children						
Enteroviral illness	1*	0	6	1	3	2
Healthy	5	0	5	2	5	3
Day Care Center Personnel						
Healthy	1	2	3	3	3	0
Household members						
Healthy (adult)	5	2	5	3	7	2

*Number of individuals

precautions particularly handwashing by personnel.[11] In the setting described here, the procedure for changing diapers and the use of a handwashing basin changed only twice daily with a common towel probably contributed to the opportunity for transmission of enteroviruses but adequate studies were not performed to obtain direct evidence for the mode of transmission in this outbreak.

Summary

An outbreak of illness ranging from aseptic meningitis to symptomatology associated with enteroviral illness occurred in a day care center in a town in the northwest of the state of Arkansas, in December, 1982. Echovirus type 11 was isolated from two patients with aseptic meningitis and two day care center children with enteroviral symptoms. Unexpectedly, enterovirus type 71 was isolated from a child with enteroviral symptoms. Both Echovirus type 11 and Enterovirus type 71 were isolated as well from apparently healthy day care center children. Serological studies confirmed infection with these viruses in children attending the day care center.

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Note—Culture and susceptibility tests should be initiated prior to and during therapy. Renal function studies should be performed when indicated.

Contraindication: Keflet is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: BEFORE CEPHALEXIN THERAPY IS INSTITUTED, CAREFUL INQUIRY SHOULD BE MADE CONCERNING PREVIOUS HYPERSENSITIVITY REACTIONS TO CEPHALOSPORINS AND PENICILLIN. CEPHALOSPORIN DERIVATIVES SHOULD BE GIVEN CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS.

SERIOUS ACUTE HYPERSENSITIVITY REACTIONS MAY REQUIRE EPINEPHRINE AND OTHER EMERGENCY MEASURES.

There is some clinical and laboratory evidence of partial cross-allergenicity of the penicillins and the cephalosporins. Patients have been reported to have had severe reactions (including anaphylaxis) to both drugs.

Any patient who has demonstrated some form of allergy, particularly to drugs, should receive antibiotics cautiously. No exception should be made with regard to Keflet.

Pseudomembranous colitis has been reported with virtually all broad spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C difficile.* Other causes of colitis should be ruled out.

Usage in Pregnancy—Safety of this product for use during pregnancy has not been established.

Precautions: *General*—Patients should be followed carefully so that any side effects or unusual manifestations of drug idiosyncrasy may be detected. If an allergic reaction to Keflet occurs, the drug should be discontinued and the patient treated with the usual agents (eg, epinephrine or other pressor amines, antihistamines, or corticosteroids).

Prolonged use of Keflet may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Keflet should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

Indicated surgical procedures should be performed in conjunction with antibiotic therapy.

As a result of administration of Keflet, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—The daily oral administration of cephalexin to rats in doses of 250 or 500 mg/kg prior to and during pregnancy, or to rats and mice during the period of organogenesis only, had no adverse effect on fertility, fetal viability, fetal weight, or litter size. Note that the safety of cephalexin during pregnancy in humans has not been established.

Cephalexin showed no enhanced toxicity in weanling and newborn rats as compared with adult animals. Nevertheless, because the studies in humans cannot rule out the possibility of harm, Keflet should be used during pregnancy only if clearly needed.

Nursing Mothers—The excretion of cephalexin in the milk increased up to 4 hours after a 500-mg dose, the drug reached a maximum level of 4 μg/mL, then decreased gradually, and had disappeared 8 hours after administration. Caution should be exercised when Keflet is administered to a nursing woman.

Adverse Reactions: *Gastrointestinal*—Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely. The most frequent side effect has been diarrhea. It was very rarely severe enough to warrant cessation of therapy. Dyspepsia and abdominal pain have also occurred. As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.

Hypersensitivity—Allergic reactions in the form of rash, urticaria, angioedema, and, rarely, erythema multiforme, Stevens-Johnson Syndrome, or toxic epidermal necrolysis have been observed. These reactions usually subsided upon discontinuation of the drug. Anaphylaxis has also been reported.

Other reactions have included genital and anal pruritus, genital moniliasis, vaginitis and vaginal discharge, dizziness, fatigue, and headache. Eosinophilia, neutropenia, thrombocytopenia, and slight elevations in SGOT and SGPT have been reported.

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From Inpatient to Outpatient Cataract Surgery

*F. Hampton Roy, M.D.**

Historical Overview

While on the VA hospital rotation during my residency 20 years ago, it was common to keep the patients six weeks, until they were fitted for glasses. At the same time, it was usual to hospitalize a private patient seven to ten days for inpatient cataract surgery. In 1974 I joined the staff of Baptist Medical Center and the average stay for my patients was two days pre- and postoperatively. This was in contrast to other physicians whose patients averaged a seven day hospital stay. This prompted an investigation of my by the Arkansas Foundation for Medical Care (AFMC). The pendulum has since swung even more toward less hospitalization. With modern microsurgical techniques and corneoscleral wound closure, outpatient cataract surgery is thought to be a safe and effective procedure on an out-patient basis.

Costs of Outpatient Surgery

In 1983, the concept of Diagnosis Related Groups (DRGs) was instituted. DRGs is a classification system used to group inpatients according to their diagnosis. Hosptals are reimbursed at a fixed rate for a specific diagnosis. This was prompted by spiraling health costs, the need to control Medicare reimbursement ,and reduce the length of the hospital stay. Effective January 1985, the hospital was reimbursed for inpatient cataract surgery under DRG 39, $1,433 less the $492 deductible unless the deductible had already been met in the last sixty days. The criteria for inpatient cataract surgery has continued to change since then so that it has become increasingly difficult to admit cataract patients.

We began performing only outpatient cataract surgery in October 1985. Baptist Medical Center charges $640 for the outpatient surgery less the $75 Part B deductible unless the deductible has already been met this year. Medicare pays 80% of the allowable fee, and the remaining 20% is covered by the supplemental insurance or is paid by the patient. We accept what the insurance pays as payment in full (assignment), as does the anesthesia group. Outpatient cataract surgery appears to be an effective way to reduce costs and represents a substantial savings to medicare. The patient's health and welfare; however, is our uppermost concern and can not be compromised.

Advantages and Disadvantages

The patient derives many benefits from outpatient cataract surgery. A majority of our patients are elderly and have other medical problems. A decrease in hospitalization will reduce the chances of pulmonary emboli, phlebitis, and hospital acquired infections. The patient benefits by recuperating in familiar surroundings. Since a large percentage of out patients live long distances, this necessitates a family member driving the patient. Thus outpatient cataract surgery is convenient for the family by eliminating several trips.

The physician benefits by the reduction in paperwork related to the hospital records and the time saved on pre- and postoperative rounds. The doctor is reimbursed at a 100% rate on outpatient surgery and 80% of the allowed rate on inpatient surgery. Thus, advantages are considerable both for the patient and the doctor.

One patient disadvantage is the inconvenience of arriving at the outpatient surgical center at an early hour. A second disadvantage is that patients living alone need a relative or friend to help them in the initial postoperative period.

Patient Selection

When the decision is reached to proceed with surgery, the primary care physician is asked to provide a problem list of the patient's medications and drug allergies, and whether the patient can undergo surgery. Patients with systemic diseases such as brittle diabetes, pulmonary insufficiency, angina pectoris, or uncontrolled hypertension must be evaluated carefully and the possible complications discussed with the patient before an informed consent is obtained.

The factors contributing to successful outpatient surgery are preoperative care and evaluation and postoperative follow-up. Nursing personnel reinforce the postoperative instructions by talking to the family and calling the patient the day following surgery. The only routine lab test performed currently is a hematocrit and hemoglobin (H&H) prior to surgery. A low H&H would not preclude surgery. Severe hypertension may contribute to an intraop-

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rative choroidal hemorrhage which can cause loss of the eye. This, and the patient's apprehension towards the surgery, are two factors which may prevent an excellent intraoperative result. Thus, medication given before surgery should help normalize blood pressure and reduce apprehension. In the last year, several patients have been submitted to the hospital for cataract surgery. Ths has included elderly persons with life-threatening medical problems including severe respiratory disease or patients requiring general anesthesia.

Operative Technique

Preoperatively the patient is started on prophylactic oral and topical antibiotics, and the pupil is dilated. The patient is given oxygen by nasal cannula. The blood pressures, pulse and respiration are monitored by the anesthesiologist and a peripheral IV is started. Valium or other medications are given to relax the patient.

The cataract is removed, leaving the back part of the lens envelope. This is called the extra-capsular cataract extraction method. The intraocular lens is placed in the same position as the original lens and is held in place by the posterior capsule. Postoperatively, Decadron 2mg is injected subconjunctivally, and a shield is taped over the operative eye. Following surgery the vital signs are monitored until they are stable. The patient is seen in the office the following week, and subsequent appointments at four and eight weeks following surgery are made. The postoperative routine includes topical antibiotics for four to six weeks, the patient's current glasses during the day, and taped-on metal shield at night for three weeks. Bifocal glasses are prescribed for the operated eye at eight weeks following surgery.

Results

From October 1, 1985, to October 1, 1986, we performed 706 cataract surgeries. Of this number, twelve were admitted for various reasons. Three patients came in the morning of surgery and were admitted after surgery, two because of sight-threatening choroidal hemorrhages at the time of surgery, one developed acute pulmonary edema preoperatively. Nine patients came in the day before surgery and were discharged the day after surgery. Two had severe respiratory disease and were on constant nasal oxygen. One patient had a previous history of choroidal hemorrhage and also organic brain syndrome. Two were done under general anesthetic. Four were done as inpatient due to the distance they lived from the hospital. The outpatients comprised 98% of our cataract patients.

Conclusion

We have reviewed the history leading up to the use of outpatient cataract surgery. After comparing advantages and disadvantages of this type surgery, we have found that this is a suitable method for cataract surgery. We have reviewed 706 patients who have had outpatient cataract extraction. This method of treatment represents significant savings in patient medical expenses. In addition, the patient's postoperative period is spent in more familiar surroundings where he continues with a modified daily routine, thus eliminating disorientation in strange surroundings and exposure to the risk of hospital acquired infections.

Acknowledgement

Anita Boyett prepared the manuscript and gatherd the statistics.

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Abruptio Placenta

Cecil A. Long, M.D., Frederick A. Jelovsek, M.D., and J. Gerald Quirk, Jr., M.D., Ph.D.*

Abstract

Abruptio placenta occurs in approximately one percent of all deliveries, and is responsible for one fetal demise in every 500 deliveries. Pregnancy associated hypertension is present in fifty percent of abruptions, and other associations include maternal smoking, short umbilical cords, and occasionally, trauma. Placental abruption may present as premature labor, but is usually associated with continuous abdominal pain and vaginal bleeding. Key aspects of managing abruptio placenta include early recognition, categorizing the severity of the abruption, and expediting delivery if maternal or fetal distress is present, or if there is evidence of fetomaternal hemorrhage, diffuse intravascular coagulation, or amniotic fluid embolus.

Introduction

Abruptio placenta is a frequent cause of third-trimester bleeding. The following discussion will address its management and focus on two important secondary disease processes associated with abruption: coagulation defects and amniotic fluid embolism.

Abruptio placenta is defined as the premature separation of a placenta from the decisual basalis prior to the third stage of labor. The incidence of abruptio placenta is between 0.5 and 1.5%.[1-4] It accounts for 40-50% of all cases of antepartum hemorrhage and, in addition, it is responsible for as much as 25% of allperinatal deaths[5] The risk of recurrence of abruptio placenta in a subsequent pregnancy is much higher than the risk for the general population. Some authors quote a risk which may be as much as 10-15 times greater.[1,2,4]

Etiology

The exact etiology of abruptio placenta is unknown; however, many investigators find it is associated with the following conditions: preeclampsia, short umbilical cord, cigarette smoking, sudden decompression of the uterus, such as that seen with trauma or polyhydramnios and multiparity (Table 1). In pregancy-associated hypertension, investigators have shown that there are degenterative changes in the intimal layer of the spiral arterioles found in the decidua basalis. Pritchard[6] noted that in cases of abruptio placenta severe enough to cause fetal demise, 50% of the patients had hypertension. One-half of those hypertensive patients had chronic hypertension and the other half had preeclampsia. Short umbilical cords (less than 20cm in length) have also been associated with placental abruption.[2,3] The normal length of an umbilical cord averages 64 centimeters. The short umbilical cord may cause excessive traction on the placenta and thus could cause abruption in some cases. Trauma due to automobile accidents is associated with placental aburption in approximately four percent of the cases.[3] Other rare causes of placental abruption associated with trauma are injuries following amniocentesis and injuries accompanying attempts at external version.[3]

Diagnosis and Management

The key to a successful outcome in the management of abruptio placenta is early and accurate diagnosis. Diagnosis is based mainly on clinical findings; the classic symptoms are uterine tenderness and hypertonus, continuous abdominal pain, and vaginal bleeding. Hurd et al., in 1983,[5] found that the following signs and symptoms were most often associated with abruptio placenta: vaginal bleeding, 78%; uterine tenderness, 66%; fetal distress, 60%; increased frequency of contractions, 17%; and uterine hypertonus in 17% of the cases. It is interesting to note that ultrasound evaluation was helpful in making the diagnosis of abruptio placentia in only two percent of the cases. The finding of fetal hemoglobin in maternal circulation (APT

Table I. Factors Associated with Abruptio Placenta

Hypertension
Short Umbilical Cord
Cigarette Smoking
Trauma
Procedures (amniocentesis, external cephalic version)

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however, is a serious sign indicating fetal bleeding.

Immediate management of abruptio placenta depends on the severity of the abruption (Table 2). Mild, moderate, and severe abruptions may occur. Mild abruption, which accounts for 65% of the cases, has less than 100cc of blood loss, a slightly irritable, nontender uterus, normal fetal heart rate pattern and normal maternal status. Moderate placental abruption, which accounts for 23% of the cases, has between 100 and 500 cc of blood loss, slightly increased uterine activity, mild tenderness, and may show evidence of fetal distress or fetal demise. The mother may exhibit mild shock. Coagulation defects are seen rarely in cases of mild to moderate placental abruption.

Severe abruption accounts for 12% of the cases. Blood loss is usually greater than 500 cc. The uterus is in a tetanic state and there is frequently evidence of fetal distress or demise. It should be noted that the abruption so severe as to cause fetal death complicates one out of 500 pregnancies. With severe abruption, the mother isusually in shock and evidence of disseminated intravascular coagulopathy is frequent.

In addressing the timing and method of delivery one must be sensitive to rapid changes in maternal and fetal status. If the mother's vital signs are unstable due to excessive hemorrhage, she must first be stabilized and then delivered immediately, frequently via cesarean section. Similarly, if the fetus shows signs of distress, delivery must be expedited. In cases of abruptio placenta where there is fetal demise. However, the vaginal route is the delivery mode of choice. A reveiw by Brame et al.,[7] over a fifteen year period, showed that 62 of 63 patients exhibiting abruption so severe as to cause fetal death were able to be delivered by the vaginal route. One cesarean section had to be performed because of a transverse lie. He found that it was of no consequence whether the patients were delivered less than twelve hours after diagnosing abruptio placenta or even greater than eighteen hours after the diagnosis had been made; the outcomes were all good.

Amniotomy should be performed as early as possible in patients with abruptio placenta. It is thought that there is decreased bleeding from the abruption after amniotomy, due to contraction of the uterus tamponading the implantation site. In addition, amniotomy may hasten delivery by allowing better application of the fetal presenting part to the cervix. Oxytocin may be used to enhance uterine contractions; however, one must always be aware of the risk of uterine rupture. This can occur when the abruption is so severe as to cause bleeding into the myometrium of the uterus (uterine apoplexy or Couvelaire's uterus).

DIC and Amniotic fluid Embolism

Two important secondary disease processes to watch for when managing abruptio placenta are disseminated intravascular coagulopathy (DIC) and amniotic fluid embolism. DIC occurs in approximately ten percent of cases of abruptio placenta, and seems to be directly related to the extent of the abruption. Pritchard and Brekan's 1967 study[6] noted a 38% incidence of coagulation defects in cases of placental abruption severe enough to result in fetal death.

The intial event in abruptio placenta is hemorrhage into the decidua basalis with the formation of a hematoma. The expansion of the hematoma damages the placenta and allows tissue thromboplastin to enter the maternal systemic circulation via venous lakes. Tissue thromboplastin intiates the extrinsic pathway of the clotting mechanism. As a result, fibrinogen is converted to fibrin, and thus, there is an overall

Table II. Classification of Abruptio Placenta

Class	*Incidence*	*Definition*
Mild	65%	Less than 100 cc blood loss; slightly irritable uterus (non-tender); normal FHT's; normal maternal vital signs
Moderate	23%	100-500 cc blood loss, increased uterine activity; mild uterine tenderness; fetal distress possible
Severe	12%	Greater than 500 cc blood loss; tetanic uterine contractions; fetal distress or fetal demise; maternal shock; DIC frequent

decrease in the concentration of fibrinogen in the blood.

Concommitantly, fibrin is degraded, or "consumed", as part of a plasminogen/plasmin mechanism which stimulates fibrinolytic activity. This is a natural physiologic mechanism that keeps the microcirculation patent. As the fibrin clot is broken down, fibrin split products increase in the maternal circulation.

Both the clotting mechanism and the fibrinolytic mechanisms require careful modulation. The principle proteins responsible for control of these systems are serine antiproteinases of which Antithrimbin III is one of the most important.[3] Antithrombin III neutralizes thrombin, plasmin, and activated forms of some of the clotting factors (XII, XI, IX, and VII). As DIC progresses, the availability of Antithrombin III is reduced.

In the vast majority of cases of placental abruption, the process of DIC is self-limiting and is reversed within several hours after delivery of the placenta and evacuation of the retroplacental clot (Figure 1). If DIC worsens or persists, one must consider other conditions such as sepsis, liver disease, or retained products of conception. However, before delivery is effected, additional therapy may be required. The hallmark of this therapy should be replacement of consumed clotting factors and Antithrombin III. Antithrombin III is not available commercially at the present time, but is contained in adequate concentrations in fresh frozen plasma or cryoprecipitate. Usually two to three units of fresh frozen plasma will be sufficient to correct the clotting mechanism temporarily, whole subsequent units can be administered as needed. If the fibrinogen level is decreased (<50mg/100 ml), cryoprecipitate is the therapy of choice. Cyroprecipitate contains approximately 250 mg of firbrinogen per unit. One bag will usually raise the fibrinogen level 2-5 mg/100 ml. The goal of therapy is to achieve a serum fibrinogen level of greater than 100 mg/100 ml. Therefore, if the patient's fibrinogen level is less than 50 mg%, it is not uncommon to have to

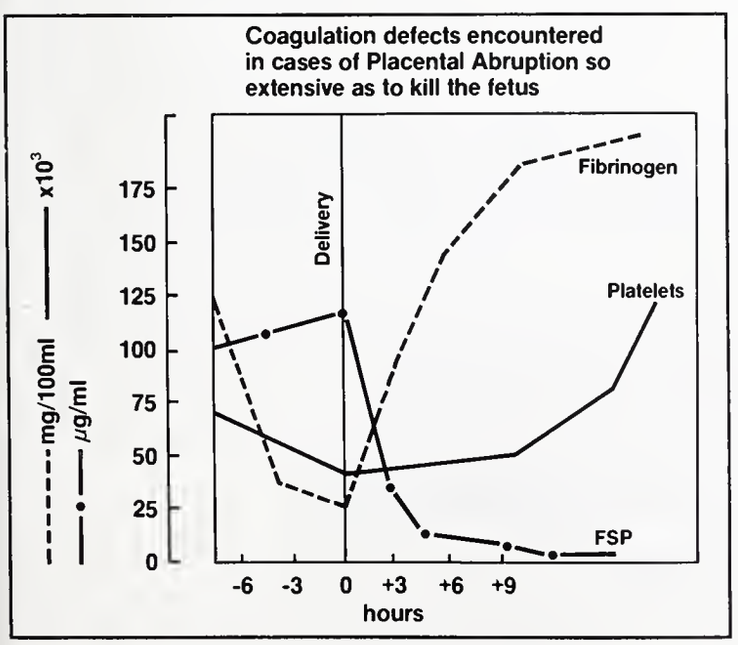


Figure 1. Modified from Williams Obstetrics 17th ed.[2]

administer eight to fifteen units of cryoprecipitate. A decreased platelet concentration is also encountered in cases of severe abruptio placenta. In general, platelet replacement therapy should be reserved for patients in which operative delivery is undertaken. In these cases the goal is to maintain a platelet count of greater than 50,000. There is no palce for the use of heparin in the management of DIC in association with abruptio placenta and its use should be condemned.[2]

Amniotic Fluid Embolism

Another infrequent eventual complication of abruptio placenta is the development of amniotic fluid embolism. This occurs when amniotic fluid, along with fetal squamous cells, fetal hair (lanugo) and meconium, are released into the maternal circulation and make their way to pulmonary capillaries. The condition was first reported in 1941 and still carries an alarming mortality rate of 86%.[8] Between 1968 and 1976 there were 454 reported deaths from amniotic fluid embolism. This represented nine percent of all maternal deaths during that time period; 45% of the cases of amniotic fluid embolism are associated with placental abruption.[8] Cardinal signs of amniotic fluid embolism are shortness of breath, shivering, anxiety, coughing, vomiting, convulsions, and pulmonary edema. Chest pain is rarely present in cases of amniotic fluid embolism.

If the patient survives the intial pulmonary insult, the incidence of uterine atony and DIC is close to 100%. Treatment for amniotic fluid embolism is divided into two phases: the acute, primary phase where management and support are focused on the cardiopulmonary systems, and the secondary phase, during which the clinical problem for management is hemorrhage.

Treatment for the acute, primary phase consists of administration of oxygen, via endotracheal tube, hydrocortisone (2-4 gm by IV administration), terbutaline, isoproterenol, or aminophylline for control of bronchial spasm, central monitoring and digitalis if the patient exhibits heart failure. In some cases, a presumptive diagnosis of amniotic emoblism can be confirmed by withdrawal of blood via the Swan-Ganz catheter and finding microscopic evidence of fetal squamous cells or lanugo. Treatment of the secondary phase involves management of DIC as discussed earlier. Uterine atony may also be a part of this secondary phase and should be managed with IV oxytocin. If oxytocin is not sufficient to control hemorrhage, prostaglandins may be needed for additional therapy.

Conclusion

Abruptio placenta must be included among the most dangerous of obstetric complications. The total morbidity and mortality for both mother and child has improved due to the advent of continuous fetal monitoring and better blood component availability and administration, as well as improved maternal central vascular monitoring. Still, the

to a favorable outcome is early diagnosis followed by aggressive management.

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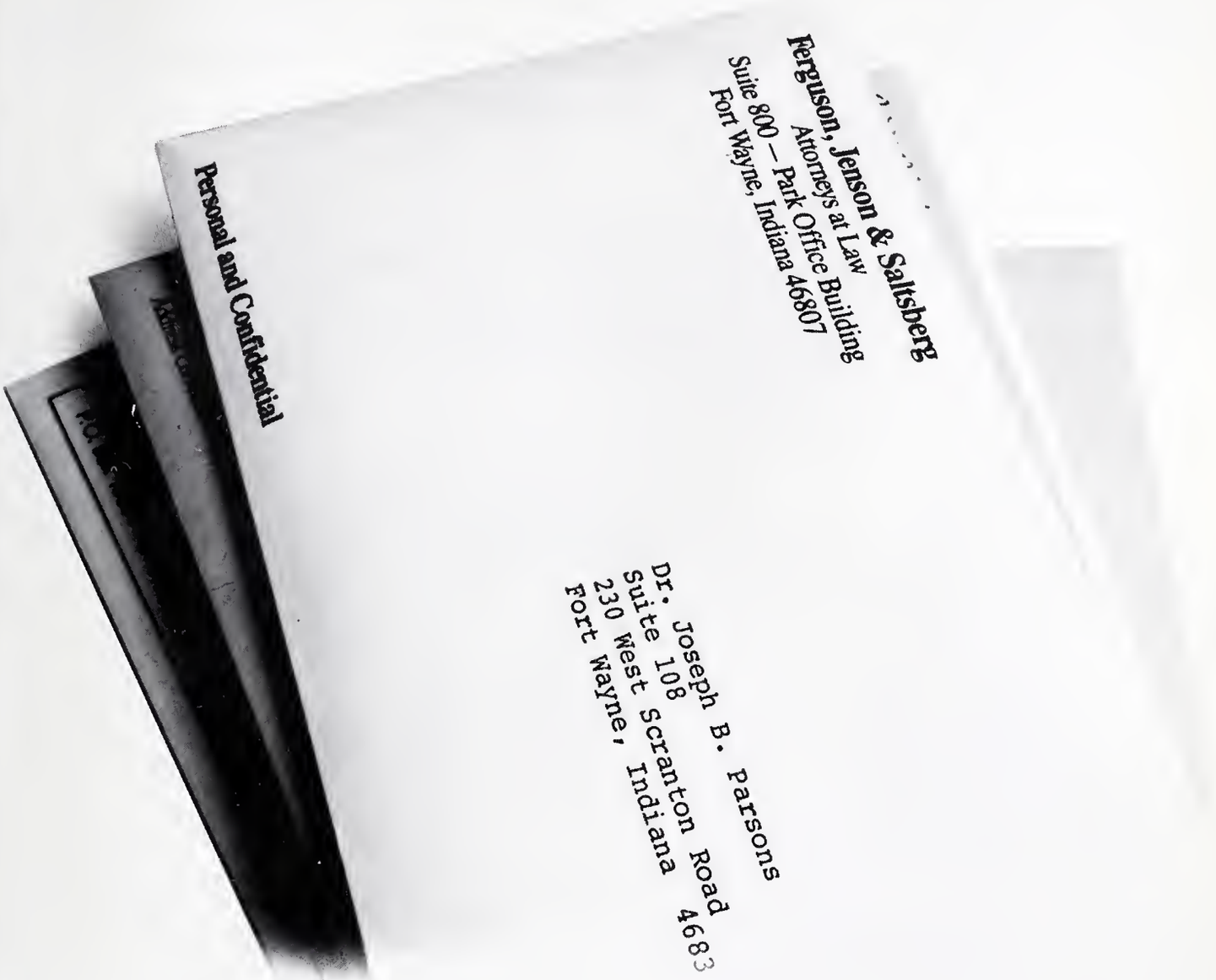
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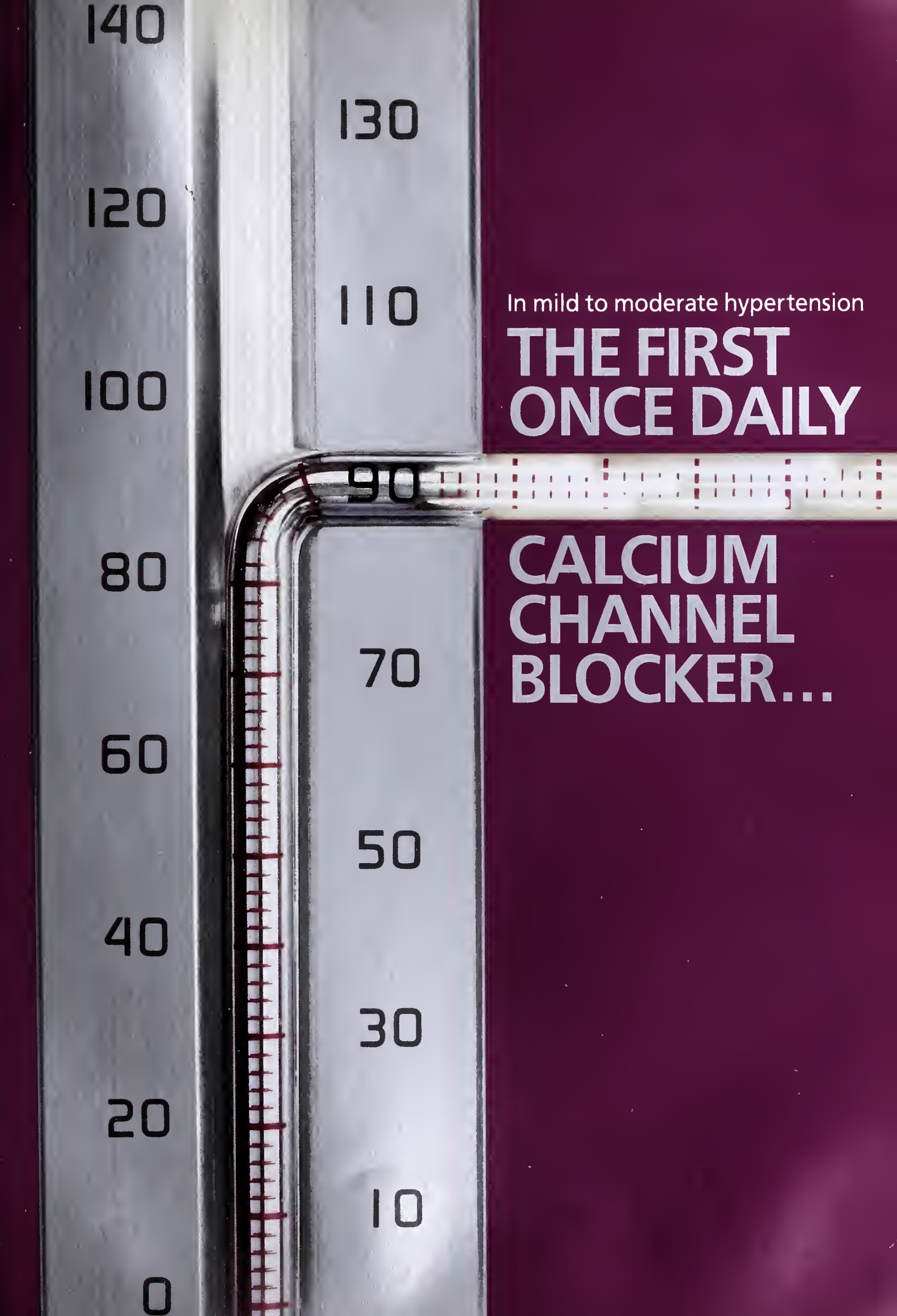
W.D. White, Ph.D.

* Visiting professor of Medical Humanities, UAMS
* Southern Baptist Minister
* Distinguished professor of Religion & English at St. Andrew's Presbyterian College in Laurinburg, North Carolina
* B.A., M.A. — Baylor University
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240 mg scored, sustained-release tablets



JAMES B.
38, black male, heavy smoker. Prescribed a diuretic by another physician last year for hypertension.

YOUR CONCERNS
Presents with "smoker's cough." Workup reveals a BP of 150/107.

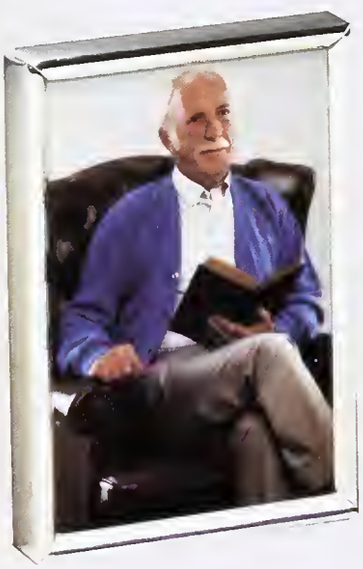
A LOGICAL CHOICE FOR CONTROL OF HIS BP
ISOPTIN® (verapamil HCl/Knoll) because...
- Black hypertensives often have low plasma renin activity and generally do not respond favorably to beta blockers.
- Beta blockers may increase the likelihood of bronchospasm.

ALICE W.
65, diabetic, overweight. Her BP has elevated to 190/98.

YOUR CONCERNS
She's on daily insulin.

A LOGICAL CHOICE FOR CONTROL OF HER BP
ISOPTIN® (verapamil HCl/Knoll) because...
- Unlike most beta blockers and diuretics, ISOPTIN has no adverse effects on serum glucose levels.
- Unlike most beta blockers, ISOPTIN does not mask the symptoms of hypoglycemia.





THOMAS G.
70, asthmatic. In the past, BP adequately controlled with 25 mg hydrochlorothiazide daily.

YOUR CONCERNS
Today patient presents with symptoms of gout. Workup reveals high uric acid level, low serum potassium, and BP elevated to 180/98.

A LOGICAL CHOICE FOR CONTROL OF HIS BP
ISOPTIN® (verapamil HCl/Knoll) because...
- Unlike diuretics, ISOPTIN will not decrease serum potassium levels or elevate uric acid levels.
- Unlike beta blockers, ISOPTIN can be used safely in asthma and COPD patients.

JOHN K.
42, Annual physical uncovered diastolic BP of 102... confirmed on three successive office visits. Unresponsive to nonpharmacologic intervention.

YOUR CONCERNS
Salesman, spends many hours of his working day in car... total cholesterol level 300, HDL 35.

A LOGICAL CHOICE FOR CONTROL OF HIS BP
ISOPTIN® (verapamil HCl/Knoll) because...
- Unlike diuretics, ISOPTIN does not cause urinary urgency.
- Unlike either beta blockers or diuretics, ISOPTIN will not adversely affect his already seriously compromised lipid profile.
- Unlike with propranolol, fatigue and impotence are rarely reported.



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CONTRAINDICATIONS: 1) Severe left ventricular dysfunction (see WARNINGS), 2) Hypotension (less than 90 mmHg systolic pressure) or cardiogenic shock, 3) Sick sinus syndrome or 2nd or 3rd degree AV block (except in patients with a functioning artificial ventricular pacemaker)

WARNINGS: Heart Failure: ISOPTIN should be avoided in patients with severe left ventricular dysfunction (see DRUG INTERACTIONS). Patients with milder ventricular dysfunction should, if possible, be controlled before verapamil treatment. Hypotension: ISOPTIN (verapamil HCl) may produce occasional symptomatic hypotension. Elevated Liver Enzymes: Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Periodic monitoring of liver function in patients receiving verapamil is therefore prudent. Accessory Bypass Tract (Wolff-Parkinson-White): Patients with paroxysmal and/or chronic atrial flutter or atrial fibrillation and a coexisting accessory AV pathway have developed increased antegrade conduction across the accessory pathway producing a very rapid ventricular response or ventricular fibrillation after receiving intravenous verapamil. While this has not been reported with oral verapamil, it should be considered a potential risk. Treatment is usually D.C.-cardioversion. Atrioventricular Block: The effect of verapamil on AV conduction and the SA node may cause asymptomatic 1st degree AV block and transient bradycardia. Higher degrees of AV block, while infrequent (0.8%), may require a reduction in dosage or, in rare instances, discontinuation of verapamil HCl. Patients with Hypertrophic Cardiomyopathy (IHSS): Although verapamil has been used in the therapy of patients with IHSS, severe cardiovascular decompensation and death have been noted in this patient population.

PRECAUTIONS: Impaired Hepatic or Renal Function: Verapamil is highly metabolized by the liver with about 70% of an administered dose excreted in the urine. In patients with impaired hepatic or renal function verapamil should be administered cautiously and the patients monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacological effects (see OVERDOSAGE).

Drug Interactions: Beta Blockers: Concomitant use of ISOPTIN and oral beta-adrenergic blocking agents may be beneficial in certain patients with chronic stable angina or hypertension, but available information is not sufficient to predict with confidence the effects of concurrent treatment in patients with left ventricular dysfunction or cardiac conduction abnormalities. Digitalis: Clinical use of verapamil in digitalized patients has shown the combination to be well tolerated if digoxin doses are properly adjusted. However, chronic verapamil treatment increases serum digoxin levels by 50 to 75% during the first week of therapy and this can result in digitalis toxicity. Upon discontinuation of ISOPTIN (verapamil HCl), the patient should be reassessed to avoid underdigitalization. Antihypertensive Agents: Verapamil administered concomitantly with oral antihypertensive agents (e.g., vasodilators, angiotensin-converting enzyme inhibitors, diuretics, beta blockers, prazosin) will usually have an additive effect on lowering blood pressure. Patients receiving these combinations should be appropriately monitored. Disopyramide: Disopyramide should not be administered within 48 hours before or 24 hours after verapamil administration. Quinidine: In patients with hypertrophic cardiomyopathy (IHSS), concomitant use of verapamil and quinidine resulted in significant hypotension. There has been a report of increased quinidine levels during verapamil therapy. Nitrates: The pharmacologic profile of verapamil and nitrates as well as clinical experience suggest beneficial interactions. Cimetidine: Two clinical trials have shown a lack of significant verapamil interaction with cimetidine. A third study showed cimetidine reduced verapamil clearance and increased elimination to 1/2. Anesthetic Agents: Verapamil may potentiate the activity of neuromuscular blocking agents and inhalation anesthetics. Carbamazepine: Verapamil may increase carbamazepine concentrations during combined therapy. Rifampin: Therapy with rifampin may markedly reduce oral verapamil bioavailability. Lithium: Verapamil may lower lithium levels in patient on chronic oral lithium therapy. Carcinogenesis, Mutagenesis, Impairment of Fertility: There was no evidence of a carcinogenic potential of verapamil administered to rats for two years. Verapamil was not mutagenic in the Ames test. Studies in female rats did not show impaired fertility. Effects on male fertility have not been determined. Pregnancy (Category C): There are no adequate and well-controlled studies in pregnant women. ISOPTIN crosses the placental barrier and can be detected in umbilical vein blood at delivery. This drug should be used during pregnancy, labor, and delivery, only if clearly needed. Nursing Mothers: ISOPTIN is excreted in human milk, therefore, nursing should be discontinued while verapamil is administered. Pediatric Use: Safety and efficacy of ISOPTIN in children below the age of 18 years have not been established.

ADVERSE REACTIONS: Constipation 8.4%, dizziness 3.5%, nausea 2.7%, hypotension 2.5%, edema 2.1%, headache 1.9%, CHF/pulmonary edema 1.8%, fatigue 1.7%, bradycardia 1.4%, 3° AV block 0.8%, flushing 0.1%, elevated liver enzymes (see WARNINGS). The following reactions, reported in less than 1.0% of patients, occurred under conditions (open trials, marketing experience) where a causal relationship is uncertain; they are mentioned to alert the physician to a possible relationship: angina pectoris, arthralgia and rash, AV block, blurred vision, cerebrovascular accident, chest pain, claudication, confusion, diarrhea, dry mouth, dyspnea, ecchymosis or bruising, equilibrium disorders, exanthema, gastrointestinal distress, gingival hyperplasia, gynecomastia, hair loss, hyperkeratosis, impotence, increased urination, insomnia, macules, muscle cramps, myocardial infarction, palpitations, paresthesia, psychotic symptoms, purpura (vasculitis), shakiness, somnolence, spotty menstruation, sweating, syncope, urticaria. Treatment of Acute Cardiovascular Adverse Reactions: Whenever severe hypotension or complete AV block occur following oral administration of verapamil, the appropriate emergency measures should be applied immediately, e.g., intravenously administered isoproterenol HCl, levarterenol bitartrate, atropine (all in the usual doses), or calcium gluconate (10% solution). If further support is necessary, inotropic agents (dopamine or dobutamine) may be administered. Actual treatment and dosage should depend on the severity and the clinical situation and the judgment and experience of the treating physician.

OVERDOSAGE: Treatment of overdosage should be supportive. Beta-adrenergic stimulation or parenteral administration of calcium solutions may increase calcium ion flux across the slow channel, and have been used effectively in treatment of deliberate overdosage with verapamil. Clinically significant hypotensive reactions or fixed high degree AV block should be treated with vasopressor agents or cardiac pacing, respectively. Asystole should be handled by the usual measures including cardiopulmonary resuscitation.

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ELECTROCARDIOGRAM OF THE MONTH

Karen Cannella, M.D.
John W. Watson, M.D.
UAMS Division of Cardiology
Little Rock, Arkansas

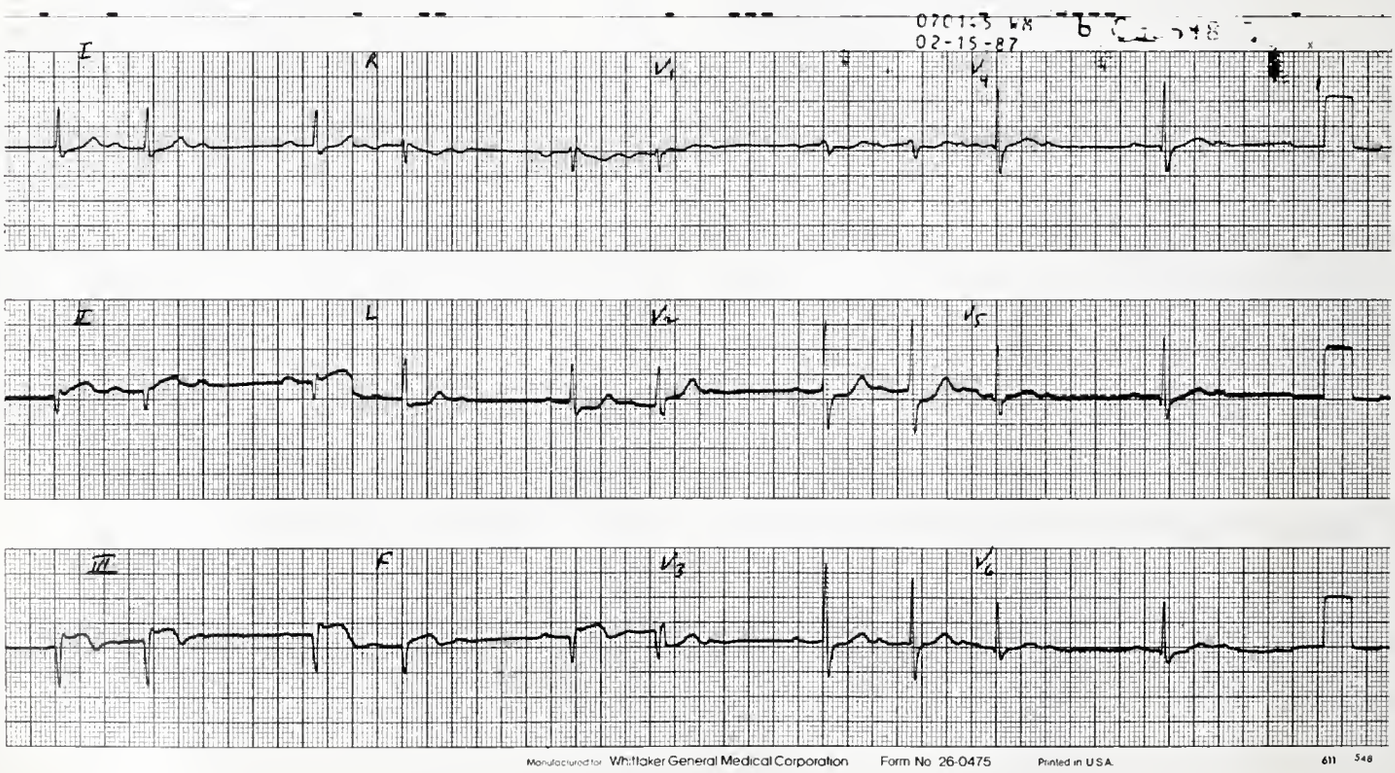
CLINICAL HISTORY;

J. P. is a 41-year-old man who developed crushing substernal chest pain while on a deer stand. The pain lasted three hours until eased bymorphine in the emergency area. His physicial examination showed him to be normotensive. The pulse was irregular but in a regular manner. There was a grade two of six holosystolic murmur and an atrial gallop. The chest was clear. What do you think of his ECG?

DISCUSSION:

The trace shows progressive PR prolongation with nonconducted P-waves. This pattern is typical for Mobitz I block. Also the trace shows changes typical for acute inferior infarction. Acute inferior is often associated with Mobitz I block as well as papillary muscle dysfunction.

The editor wishes to thank Dr. Cannella of Conway, Arkansas for her contribution to this month's feature.



CANCER MANAGEMENT PROBLEM

Adjuvant Therapy for Breast Cancer

Tony A. Flippin, M.D., Harold D. Langston, M.D., Jerry L. Prather, M.D. and Don I. Scott, M.D.*

Problem

A 61-year-old woman with a previous diagnosis of stage II breast cancer presented for a discussion of her treatment options. She had a left modified radical mastectomy for a central outer quadrant, subareolar mass of the breast three months earlier. Three lymph nodes were positive, and both the estrogen receptor assays (ERA) and the progesterone receptor assays (PRA) were positive. The patient was postmenopausal, menopause having been completed at about age fifty. Adjuvant chemotherapy with cyclophosphamide, methotrexate and fluorouracil (CMF) was begun, and the patient had completed two courses of treatment.

Pathology Review

Dr. Scott: Pathology review confirms an infiltrating moderately differentiated adenocarcinoma. There were two foci, 2.5 and 0.3 cm in diameter. Three of twenty-six nodes were positive with no extracapular extension present. Estrogen receptors were 404 fmol/mg protein, and the progesterone receptors were 1162 fmol/mg protein. [1,2]

Diagnistic X-Ray Review

Dr. Prather: Bone and liver scans were reviewed and were found to be normal with no evidence of metastatic disease. Chest x-rays revealed normal heart and lungs without evidence of metastatic or inflammatory disease. Mammography taken three months before the left modified radical mastectomy had not demonstrated any findings suspicious of malignancy or any cystic lesion.

Medical Oncology Opinion

Dr. Flippin: Since both the estrogen receptors and the progesterone receptors were positive, we recommended antiestrogen therapy for this postmenopausal woman.[3-5] Tamoxifen is the drug of choice.[6-8] Patients who are estrogen-receptor positive respond to tamoxifen about 65% of the time. The more estrogen-receptor positive a patient is, the more the patient will respond. The combination of strong estrogen and progesterone positivity is even more predictive of a favorable response to hormonal therapy. We expected that this patient would be in the 85% category to respond to tamoxifen.

Either chemotherapy or radiation therapy should be used along with the antiestrogen therapy. Since this patient had a multifocal disease with three positive nodes, the panel agreed that it was appropriate for the patient to continue with the chemotherapy treatment she had started.[9] According to one study, patients who received six months of chemotherapy did as well as those who received twelve months.[10]

It was also pointed out to the patient that some physicians prefer to use tamoxifen and chemotherapy. This should be a decision that the patient makes with her physician. The panel emphasized that whether chemotherapy or radiation therapy was used, it strongly recommended antiestrogen therapy.

Radiation Therapy

Dr. Langston: This postmenopausal patient needs adjuvant therapy for local control.[3,6] The adjuvant therapy could consist of a hormonal agent alone, followed by radiation therapy to the chest wall to prevent local recurrence. If hormonal therapy and chemotherapy were given, radiation therapy was not needed.

Consensus

This patient presented with three positive nodes and multifocal disease in the breast. The panel agreed that she needed adjuvant therapy and that the therapy should include tamoxifen or other hormonal agents. In addition to the hormonal therapy, the adjuvant therapy could include continuing the chemotherapy that the patient had already started or it could include radiation therapy. Both are appropriate treatments, and the decision should be made by the patient and her physician.

Acknowledgment

The authors wish to thank Marjorie McMinn for her editorial assistance in the preparation of this paper.

**One St. Vincent Circle, Suite450, Litle Rock, AR 72205.*

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As a person with diabetes you'll be twice as prone to heart disease. 17 times as prone to kidney disease. And 25 times as prone to blindness, if you are insulin-dependent.

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Fortunately, diabetes in adults, in most cases, can be prevented with careful weight control, healthy eating habits, and regular exercise.

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From Other Years

Journal of the Arkansas Medical Society
Vol. 6, No. 5 November 1895 p. 218

Editorial Notes

Doctor ...., at the time president of the Arkansas State Board of Health, waas recently killed in Little Rock while in the act of invading a man's household with immoral designs on the man's wife. A proper ending of a very improper life.

Governor Clarke has filled the vacancy on the State Board of Health caused by the killing of Doctor ...., by the appointment of Doctor H. C. Dunavant. Doctor E. R. Dibrell was also appointed to fill the vacancy caused by Doctor W. A. Cantrell's failure to qualify as a member of the board. The two appointments are excellent ones and much in contrast with some medical appointments made by Governor Fishback.

The Journal of the Arkansas Medical Society
Vol. 8, No. 2 February 1897 p. 61

A Simple Cure for Insomnia

The Indian Lancet suggest the following as a ready means of inducing sleep: Nature's plan for curing insomnia is to limit the supply of oxygen to the blood, as the cat and dog bury their noses in some soft hollow in their hair or fur, birds put their heads under their wings, and soon fall asleep. Those suffering from insomnia should cover their heads with the bedclothes, and breathe and rebreathe only the respired air. When drowsiness is produced, sleep quickly follows, and the bed covering may be pushed aside and as much fresh air obtained as is needed.

From the University of Arkansas for Medical Sciences Library History of Medicine/Archives Division.

Medicine in the News

AAFP Policy for Physician Impairment

In figures released by the Federation of State Medical Boards, there has been a forty percent increase from 1984 to 1985 of physicians being disciplined by state medical boards. Primarily, physicians were disciplined for excessive alcohol or drug use, physician impairment or inappropriate prescribing habits.

In response to these figures, the American Academy of Family Physicians has become one of the first medical associations to issue an official definition of physician impairment and has issued a policy statement aimed at rehabilitation, support and prevention of physician impairment.

The official definition, adopted by the AAFP Board of Directors, reads, "The AAFP believes a physician to be impaired when the following factors are evidenced by the inability to exercise prudent medical judgment and the inability to practice with reasonable skill and safety without jeopardy to patient care: alcoholism, substance abuse, mental illness, behavorial disorder, medical illness, unethical practices, and incompetency."

The Board designated that any single factor or combination of factors leaves the physician unable to perform adequately.

The AAFP policy statement for rehabilitation, support and prevention includes the development of a model for programs which will "meet the unique needs of the impaired physician for adequate, considerate and prompt treatment and/or educational programming." The rights and needs of patients for continuity of care will also be included in the model plan.

In an additional statement, the AAFP states that, "AAFP members who are participating in or who have successfully completed treatment/education update programs will be supported by the Academy as provided in the guidelines for model programs." The policy allows physicians to retain membership and participation in activities as long as the member meets membership requirments as specified in the Bylaws.

Another definition adopted by the Board concerns "incompetent" physicians. It reads, "In reference to physicians, the AAFP defines 'incompetent' to mean clinically inept as evidenced by the inability to practice medicine with reasonable skill and judgement due to the lack of or the deterioration of cognitive, attitudinal and procedural skills (clinical skills)."

Estrogen and Calcium Best Bet for Osteoporosis Sufferers

The roles of estrogen, calcium, and exercise in reducing bone loss were primary topics of discussion during an international scientific workshop sponsored recently by the National Institutes of Heath and the

National Osteoporosis.Foundation.

More than 800 medical researchers and bone disease specialists gathered for the workshop which focused on current research related to osteoporosis.

Workshop leaders cited estrogen deficiency as the principal cause of osteoporosis in women and affirmed the effectiveness or oral estrogens in retarding bone loss.

At present, only oral estrogens are approved by the Federal Food and Drug Administration osteoporosis treatment. It is not known if other forms of estrogen are capable of retarding bone loss.

It was also stated that calcium is important in the development and maintenance of the skeleton, particularly in childhood and in old age.. The panelists further agreed that calcium may play a role in curbing osteoporosis when used in conjunction with estrogen.

Excerise was discussed with workshop leaders stating that "three to four hours per week of weightbearing exercies may be beneficial to the skeleton." The panelists stressed that it is extremely important to maintain a balance between physicial exercise and the other strategies of estrogen therapy, level of calcium intake and general nutrition.

Other possible prevention/treatment methods discussed included calcitonin, fluoride, vitamin D metabolites, low-dose parathyroid hormone, disphosphonates, and anabolic steroids. None of these agents is currently approved for treating osteoporosis, but all provide avenues for future investigation.

New AMA Book on Driver Limitations

The AMA has recently introduced a new publication, "Medical Conditions Affecting Drivers," which was prepared under the auspices of the Council on Scientific Affairs.

It replaces the former AMA booklet, "Physician's Guide for Determining Driver Limitation," which had been a primary purlibcation in the field since the early 1960's.

"Medical Conditions Affecting Driving" was written and edited by members of the AMA's scientific staff in cooperation with an expert committee of eighteen physicians and non-physicians. The project took three years to complete.

Prepared principally for physicians, the 86-page volume considers physician and patient responsibilities associated with driving vehicles.

Topics discussed include effects of alcohol and other drugs on driving, prevention of vehicle-related injuries, and guidelines relating to diabetes, epilepsy, coronary artery disease, visual problems, musculoskeletal abnormalities, psychiatric conditions and other abnormalities.

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INDERAL LA should not be considered a simple mg-for-mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first-degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

WARNINGS. CARDIAC FAILURE. Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following *abrupt* discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned, the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema) — PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY. The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, eg, dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta blockers should be used with caution in diabetic patients if a beta-blocking agent is required. Beta blockers may mask tachycardia occurring with hypoglycemia, but other manifestations such as dizziness and sweating may not be significantly affected. Following insulin-induced hypoglycemia, propranolol may cause a delay in the recovery of blood glucose to normal levels.

THYROTOXICOSIS. Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol may change thyroid function tests, increasing T_4 and reverse T_3 and decreasing T_3.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case, this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS. GENERAL. Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

CLINICAL LABORATORY TESTS. Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS. Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Caution should be exercised when patients receiving a beta blocker are administered a calcium-channel-blocking drug, especially intravenous verapamil, for both agents may depress myocardial contractility or atrioventricular conduction. On rare occasions, the concomitant intravenous use of a beta blocker and verapamil has resulted in serious adverse reactions, especially in patients with severe cardiomyopathy, congestive heart failure or recent myocardial infarction.

Aluminum hydroxide gel greatly reduces intestinal absorption of propranolol.

Ethanol slows the rate of absorption of propranolol.

Phenytoin, phenobarbitone, and *rifampin* accelerate propranolol clearance.

Chlorpromazine, when used concomitantly with propranolol, results in increased plasma levels of both drugs.

Antipyrine and *lidocaine* have reduced clearance when used concomitantly with propranolol.

Thyroxine may result in a lower than expected T_3 concentration when used concomitantly with propranolol.

Cimetidine decreases the hepatic metabolism of propranolol, delaying elimination and increasing blood levels.

Theophylline clearance is reduced when used concomitantly with propranolol.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY. Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

PREGNANCY. Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

NURSING MOTHERS. INDERAL is excreted in human milk. Caution should be exercised when INDERAL (propranolol HCl) is administered to a nursing woman.

PEDIATRIC USE. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: Bradycardia; congestive heart failure; intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura; arterial insufficiency, usually of the Raynaud type.

Central Nervous System: Light-headedness; mental depression manifested by insomnia; lassitude; weakness; fatigue; reversible mental depression progressing to catatonia; visual disturbances; hallucinations; vivid dreams; an acute reversible syndrome characterized by disorientation for time and place; short-term memory loss; emotional lability; slightly clouded sensorium; and decreased performance on neuropsychometrics. For immediate formulations, fatigue, lethargy and vivid dreams appear dose related.

Gastrointestinal: Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: Pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: Bronchospasm.

Hematologic: Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

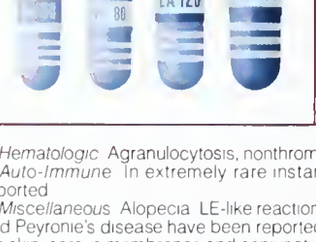
Miscellaneous: Alopecia. LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

ONCE-DAILY

INDERAL® LA

(PROPRANOLOL HCl)

LONG ACTING CAPSULES



DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL Tablets to INDERAL LA Capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg-for-mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary, especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION — *Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood-pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS — *Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three- to seven-day intervals until optimal response is obtained. Although individual patients may respond at any dosage level, the average optimal dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE — *Dosage must be individualized.* The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimal migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximal dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS — 80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE — At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

*The appearance of these capsules is a registered trademark of Ayerst Laboratories.

REFERENCES:

1. INDERAL LA National Compliance Evaluation Program. Data on file, Ayerst Laboratories.
2. Ravid M, Lang R, Jutrin I. The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily. *Arch Intern Med* 1985; 145:1321-1323.

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KEEPING UP

Annual Meeting of the Arkansas Chapter of the American College of Surgeons

June 12-13, 7:30 a.m. - 12:00 noon. Presented by Nicholas P. Lang, M.D. and Samuel E. Landrum, M.D. Sponsored by UAMS Office of Continuing Education for Physicians. The Red Apple Executive Conference Center, Eden Isle, Heber Springs. Seven Category I credit hours. Fee: Non-ACS members, $25.

Arkansas Caduceus Club Annual Alumni Weekend/Scientific Session

June 12-14, 7:30 a.m.-12:00 noon. Presented by Louis L. Sanders, M.D., Sponsored by UAMS Office of Continuing Education for Physicians. UAMS Education Building, Little Rock. Three Category I credit hours.

Sports Medicine, 1987

June 13, 8::00 a.m.-5:00 p.m. Sponsored by Baptist Medical Center. Little Rock Hilton. Registration fee: $75.00 for physicians, $25.00 for coaches, trainter, etc. Seven and one-quarter Category I hours and AAFP hours. For further information contact: BMC Medical Education Center, 227-2672.

Regional Perinatal Conference

June 18, 6:00 p.m.-8:30 p.m. and June 19, 8:00 a.m.-3:45 p.m.. Presented by Frank C. Miller, M.D. Sponsored by UAMS Office of Continuing Education for Physicians. Six and three-quarters Category I hours. Fee: $25.

Ninth Annual Family Practice Intensive Review

June 19-21, time to be announced. Presented by Ben N. Saltzman, M.D. Sponsored by UAMS Office of Continuing Education for Physicians. UAMS Education Building, Room G131, Little Rock. Twenty-one Category I credit hours. Fees: Physicians, $200; Physician's Assistants, $100; Residents, students and full-time UAMS faculty, $25.00.

Hormonal Replacement Therapy in Menopause - Calcium Metabolism

June 23, 7:00 p.m. Presented by Steve N. London, M.D., Department of Gynecology, UAMS. Sponsored by Baxter County Regional Hospital. Education Building, Baxter County Regional Hospital, Mountain Home. Two Category I credits.

ATLS Provider Course

June 27-28, 8:00 a.m.-6:00 p.m. Presented by Robert W. Barnes, M.D. and Charles D. Mabry, M.D. Sponsored by UAMS Office of Continuing Education for Physicians. UAMS Education Building, Little Rock. Sixteen Category I credit hours. Fee: $425.

Regional Perinatal Conference

August 20, 6:00 p.m.-8:30 p.m. and August 21, 8:00 a.m.-3:45 p.m. Presented by Frank C. Miller, M.D. Sponsored by the UAMS Office of Continuing Education for Physicians. Stroud Hall, St. Bernard's Regional Medical Center, Jonesboro. Six and three-quarters Category I credit hours. Fee: $25.

Recurring Education Programs

EL DORADO - AHEC

Behavioral Sciences Conference, first and fourth Friday, 12:15 p.m., AHEC - South Arkansas.
Chest Conference, third Wednesday, 12:30 p.m., Warner Brown Hospital
Fracture Conference, third Tuesday, 12:15 p.m., AHEC-South Arkansas
Gynecology-Pathology Conference, second Friday, 12:15 p.m., AHEC-South Arkansas
Internal Medicine Conference, first, second and fourth Wednesday, 12:15 p.m., AHEC-South Arkansas
Pathology Conference, second Tuesday, 12:15 p.m., AHEC-South Arkansas
Pharmacology Conference, second Thursday, 12:15 p.m., AHEC-South Arkanss
Obstetrics-Gynecology Conference, fourth Thursday, 12:15 p.m., AHEC-South Arkansas
Surgical Conference, first, second and third Monday, 12:15 p.m., AHEC-South Arkansas
Tumor Clinic, fourth Tuesday, 12:15 p.m., AHEC-South Arkansas

FAYETTEVILLE - AHEC NORTHWEST

Medicine Teaching Conference, first, third and fifth Friday, 7:30 a.m., Baker Conference Room, Washington Regional Medical Center

FAYETTEVILLE - VA MEDICAL CENTER

Medical Conference, each Wednesday, 12:15 p.m., Conference Room, Building 1, VAMC
Pathology/Mortality Conference, each Friday, 12:30 p.m., Surgical Suite, VAMC

SMITH-AHEC

...ology Conference, first Thursday, 12:00 noon, Sparks Regional Medical Center
...ily Practice Conference, third Wednesday, 12:00 noon, Sparks Regional Medical Center
Gastroenterology Conference, first Friday, 12:00 noon, Sparks Regional Medical Center
Internal Medicine Conference, first Wednesday, 12:00 noon, Sparks Regional Medical Center
Neurology Conference, second Thursday, 12:00 noon, Sparks Regional Medical Center
Ob/Gyn Conference, third Thursday, 12:00 noon, Sparks Regional Medical Center
Thoracic & Cardiovascular Surgery Conference, third Thursday, 12:00 noon, Sparks Regional Medical Center

HOT SPRINGS-AMI NATIONAL PARK MEDICAL CENTER

Continuing Medical Education Luncheon, varying topics, second and fourth Friday, 12:30 p.m., Classrooms, AMI National Park Medical Center

JONESBORO-AHEC NORTHEAST

AHEC Lecture Series, first and third Tuesday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building
Arkansas Methodist Hospital CME Conference, last Friday, 7:00 a.m., Arkansas Methodist Hospital, Paragould
Chest Conference, fourth Thursday, 12:00 noon, St. Bernard's Dietary Conference Room
Independence County Medical Society, second Tuesday, 7:30 p.m., White River Medical Center, Batesville
Interesting Case Conference, second and fifth Tuesday, when applicable, 12:00 noon, St. Bernard's Dietary Conference Room.
Kennett Tumor Conference, second Tuesday (every other month), 12:00 noon, Twin Rivers Regional Medical Center, Kennett, Mo.
Methodist Hospital of Jonesboro CME Staff Conference, second Tuesday, 7:30 p.m., Cafeteria, Methodist Hospital of Jonesboro
Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas
Newport Tumor Conference, second Wednesday, 12:00 noon, rotates each month between Harris Clinic and Newport Hospital
Perinatal Conference, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room
Poplar Bluff Tumor Conference, third Wednesday, 12:00 noon, Lucy Lee Hospital, Poplar Bluff.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room

LITTLE ROCK-ARKANSAS CHILDREN'S HOSPITAL

Alternating Sub-Specialty Conference, third Wednesday, 12:00 noon, Second Floor Classroom
General Pediatrics Seminar, first and third Friday, 12:00 noon, Second Floor Classroom
Genetics Conference, each Wednesday, 12:00 noon, Sturgis Building, Room 457
Infectious Disease Conference, second Wednesday, 12:00 noon, Sturgis Building, Room 121
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Sturgis Building, Auditorium
Pediatric Neuropsychiatry Conference, second Wednesday, 1:30 p.m., Polly R. Thomas Conference Room
Pediatric Neuroscience Conference, first Thursday, 8:00 a.m., Second Floor Classroom
Pediatric Pathology Conference, first Wednesday, 12:00 noon, Second Floor Classroom
Pediatric Pharmacology Conference, fifth Wednesday when applicable, 12:00 noon, Second Floor Classroom
Pediatric Radiology Conference, first and third Thursday, 12:00 noon, Second Floor Classroom
Pediatric Research Conference, third Monday, 12:00 noon, Second Floor Classroom
Problem Case Conference, second and fourth Friday, 12:00 noon, Second Floor Classroom
Respiratory Care Case Conference, each Monday, 3:00 p.m., Second Floor Classroom

LITTLE ROCK-ST. VINCENT INFIRMARY

Cancer Conference, first Wednesday, 12:00 noon, CARTI Auditorium. A meal is provided.
Cancer Conference, third and fourth Thursday, 12:00 noon, Room S1174K, Lab. A meal is provided.
General Medicine Journal Club, each Tuesday, 12:00 noon, Medical Affairs Conference Room. Bring your lunch.
Hematology-Oncology Conference, second Thursday, 12:00 noon, Laboratory Library. A meal is provided.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m., Classroom 1, Education Wing. Refreshments are provided.
Neuropathology Conference, third Tuesday, 5:00 p.m., Room S1174K, Lab. Refreshment are provided.
Pediatric Conference, first Tuesday, 12:30 p.m., Classroom 1, Education Wing. A meal is provided.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m., Classroom 1, Education Wing. A meal is provided.
Pulmonary Conference, second and fourth Wednesday, 12:00 noon, Classroom 1, Education Wing. A meal is provided.

LITTLE ROCK-UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

ACRC/CARTI Tumor Conference, each Wednesday, 12:00 noon, CARTI
ACRC Oncology Forum, fourth Thursday, 4:00 p.m., UAMS Education Building, Room G137,CARTI, Markham and University, Little Rock.
Anesthesia Lecture Series, each Wednesday and Thursday, 4:00 p.m., UAMS Education Building, Room G/110 A & B
Anesthesia Morbidity and Mortality Conference, each Tuesday, 6:45 a.m. (Wednesday afternoon only during last week of the month at 4:00 p.m.), UAMS Education Building, Room G/110 A&B
Interdisciplinary Gynecologic Cancer Conference, each Friday, 12:30 p.m., UAMS Education Building, Room G106 A&B
Medicine Grand Rounds, each Thursday, 12:15 p.m., UAMS Shorey Auditorium.
Medicine Research Conference, each Tuesday, 8:00 a.m., UAMS Shorey Building Room 8/105
Ob/Gyn Grand Rounds, each Wednesday, 7:30 a.m., UAMS Education Building, Room G/131B
Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m., UAMS AAC Eye Clinic, Room 3/150.
Orthopaedic Basic Science Conference, each Tuesday, 11:00 a.m., UAMS Education Building, Room B/135
Orthopaedic Bibliography Conference, each Tuesday, 8:30 a.m., UAMS Education Building, Room B/135
Orthopaedic Fracture Conference, each Tuesday, 7:30 a.m., UAMS Education Building, Room B/135
Orthopaedic Grand Rounds, each Tuesday, 10:00 a.m., UAMS Education Building, Room B/135
Psychiatry Grand Rounds, each Friday, 11:00 a.m., UAMS Shorey Auditorium

St. Vincent Urology Grand Rounds, first Tuesday, 5:30 p.m., St. Vincent Infirmary, Education Building Room 159
Surgery Grand Rounds, each Saturday, 9:00 a.m., UAMS Education Building, Room G/131
Surgical Science Conference, each Saturday, 8:00 a.m., UAMS Education Building Room G/131
Urologic Topics, once or twice monthly, 5:00 p.m., UAMS
Urology Grand Rounds, twice monthly, 5:00 p.m., VAMC
Urology Morbidity and Mortality Workshop, last Wednesday, UAMS
Uro-Radiology Workshop, first Thursday, 5:00 p.m., UAMS
VA Medical Service Teaching Conference, each Thursday, 8:00 a.m., NLRVA, Building 66, Room 38
VA Research Methods Conference, first Wednesday, 12:00 noon, VAMC, Room 1E122
VA Surgery Grand Rounds, each Thursday, 12:45 p.m., VAMC, Room 2D109
VA Topics in Rehabilitation Medicine, each Thursday, 7:45 a.m., NLRVA Conference Room, Building 89L
VA Weekly Cancer Conference (Surgical Service), each Tuesday, 1:00 p.m., VAMC, Room 2D109

LITTLE ROCK-BAPTIST MEDICAL CENTER

Anesthesiology Conference, third Thursday, 7:00 a.m., Conference Room 1
Emergency Medicine Board Review, second Tuesday, 6:00 p.m., Third Floor Conference Room, Doctor's Park Building.
Grand Rounds Conference, each Wednesday, 12:00 noon, Conference Room 1. Lectures and Case Presentations. A light lunch will be served.
Pathology Conference, third Tuesday, 3:00 p.m., Pathology Library. Case Presentations.
Pulmonary Conference, each Tuesday, 12:00 noon, Shuffield Auditorium. Lunch served for $1.75.
Surgery Conference, each Thursday, 7:30 a.m., Shuffield Auditorium. Lectures and Case Presentations.

PINE BLUFF-AHEC

Behavioral Science Conference, each Thursday, 12:30 p.m., Jefferson Regional Medical Center
Chest Conference, second and fourth Friday, 12:30 p.m., Jefferson Regional Medical Center
Family Practice Conference, fourth Tuesday, 12:30 p.m., Jefferson Regional Medical Center
Internal Medicine Conference, second and fourth Wednesday, 12:30 p.m., Jefferson Regional Medical Center
Obstetrics/Gynecology Conference, second Tuesday, 12:30 p.m., Jefferson Regional Medical Center
Pediatric Conference, third Wednesday, 12:30 p.m., Jefferson Regional Medical Center
Radiology Conference, third Tuesday, 12:30 p.m., Jefferson Regional Medical Center
Southeast Arkansas Medical Lecture Series, third Tuesday, 6:30 p.m., Rosswood County Club. Dinner meeting.
Sub-Specialty Conference, first Tuesday, 12:30 p.m., Jefferson Regional Medical Center
Surgery Conference, first Wednesday, 12:30 p.m., Jefferson Regional Medical Center

TEXARKANA-AHEC SOUTHWEST

Chest Conference, third Wednesday, 12:30 p.m., St. Michael Hospital
Neuro-Radiology Conference, second and fourth Wednesday, 7:00 a.m. breakfast, Wadley Regional Medical Center
Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

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Checkup Guidelines for men and women over 50 without symptoms:
- digital exam annually
- stool blood test annually
- procto exam every 3 to 5 years after 2 negative tests 1 year apart.

THINGS TO COME

JUNE 14-20

Thirty-Third Annual Family Practice Review. Sponsored by the University of Colorado School of Medicine, Office of Continuing Medical Education. Approved for Category I credit. For further information, contact: UC School of Medicine, 4200 East Ninth Ave, Box C-295, Denver, CO 80262; (303) 394-5195

JUNE 25-27

Second National Conference on Cancer Prevention and Detection. Sponsored by the American Cancer Society. Westin Hotel, Seattle, Washington. Fifteen hours of Category I credit available. Fee: Prior to June 15; $200 for physicians; $100 for all other health professionals. Fee after June 15: $250 for physicians and $150 for all other health professionals. For further information contact: American Cancer Society, Second National Conference on Cancer Prevention and Detection, 90 Park Avenue, New York, NY 10016; (212) 736-3030.

JUNE 29-JULY 3

Pediatric Infectious Disease in the Office Practice. Sponsored by the University of Colorado School of Medicine. The Gant, Aspen. Approved for Category I credit. For further information, contact: UC School of Medicine, Office of Continuing Medical Education, 4200 East Ninth Ave, Box C-295, Denver, CO 80262; (303) 394-5195.

JULY 3-8

Family Practice Board Review. Sponsored by the Office of Continuing Medical Education, University of California San Diego School of Medicine. Hanalei Hotel, San Diego, California. Twenty-nine Category I credit hours. Fee: $395. For further information contact: Office of Continuing Medical Education, UC San Diego School of Medicine, M-017, La Jolla, CA 92093; (619) 534-3940.

JULY 9-11

The Pituitary in Aspen. Sponsored by the University of Colorado School of Medicine. Given Institute of Pathobiology, Aspen, Colorado. Approved for Category I credit. For further information, contact: UC School of Medicine, Office of Continuing Medical Education, 4900 East Ninth Ave, Box C-295, Denver, CO 80262; (303) 394-5195.

JULY 12-17

Twenty-Third Annual Internal Medicine Program. Sponsored by the University of Colorado School of Medicine. YMCA of the Rockies, Estes Park, Colorado. Approved for Category I credit. For further information, contact: UC School of Medicine, Office of Continuing Medical Education, 4200 East Ninth Street, Box C-295, Denver, CO 80262; (303) 294-5195.

JULY 16-18 and JULY 23-25

July 16: Advances in Cardiology. July 23: Common Emergencies in General Medicine. Sponsored by the University of Massachusetts Medical School, Berkshire Medical Center and Berkshire AHEC. Country Inn and Conference Center at Jiminy Peak, Hancock, Massachusetts. Sixteen Category I credit hours. Fee: $295 (one conference); $500 (two conferences). For further information contact: Berkshire AHEC, 725 North Street, Pittsfield, MA 01201; (413) 499-4161, ext. 2417.

JULY 16-19

Arkansas Academy of Family Physicians Fortieth Annual Scientific Assembly. Sponsored by the Arkansas Academy of Family Physicians. Little Rock Excelsior Hotel and Statehouse Convention Center. Twenty-four and one-half hours of Category I credit. Registration fees: Prior to June 25, members $125.00 and non-members, $150.00. After June 25, members fees are $150.00 and non-members are $175.00. Hands-on workshops will be available for a registration fee of $75.00 for each course taken. You must pre-register for the hands on courses. The hands-on courses are: Endometrial Sampling and Office D & C";"EGD; Flexible Sigmoidoscopy;Sports Medicine;and Treadmill Stress Testing. The Scientific program follows:

Thursday, July 16

10:00 a.m.	AIDS Update, Terry Yamauchi, M.D.
10:45 a.m.	New Approaches to Prevention of Renal Failure, George L. Ackerman, M.D.
11:25 a.m.	Evaluation and Management of Urologic Problems of the Mature Male, John F. Redman, M.D.
1:15 p.m.	Managing Patients with Multiple Unex plained Physicial Complaints, G. Richard Smith, Jr., M.D.
2:00 p.m.	Early Detection of Colon Cancer, Nicholas P. Lang, M.D.
2:40 p.m.	Break - Visit Exhibits
3:00 p.m.	Early Detection of Breast Disease, J. Michael Stair, M.D.
3:45 p.m.	Nutrition and Coronary Artery Disease, Ronald F. Kahn, M.D.
4:30 p.m.	Myofascial Disorders, A. Lewis Kolodny, M.D.

FRIDAY, JULY 17

8:00 a.m.	Contraception, Mildred S. Hanson, M.D.
8:45 a.m.	New Challenges in Tuberculosis, William W. Stead, M.D.
9:15 a.m.	Break - Visit Exhibits
9:45 a.m.	Fetal Monitoring for the Family Physician, Kent Alan Petrie, M.D.
10:30 a.m.	Management of Chronic Pain, A. Lewis Kolodny, M.D.
11:10 a.m.	Early Therapy in Myocardial Infarctions:

	Changing Concepts, Andrew Kumpuris, M.D.
1:30 p.m.	Physician Reimbursement for Medicare, Robert Benefield, M.D.; J.D. Sconce; Margarette Smith; Rosemary Wilson
2:30 p.m.	Athletes - Use and Misuse of Drugs, Bruce Woolley, Pharm.D.
3:15 p.m.	Break - Visit Exhibits
4:15 p.m.	Sexually Transmitted Diseases, Mildred S. Hanson, M.D.

SATURDAY, JULY 18

8:15 p.m.	Peer Review Organization, James Armstrong, M.D.; James Maupin, M.D.; J. D. Sconce; Frank Wise
9:30 a.m.	International Classification of Primary Care: A New Approach to Clinical Care, Mauris Wood, M.D.
10:15 a.m.	Break
10:30 a.m.	Early Detection of the Stroke Prone Patient, Robert Barnes, M.D.
11:10 a.m.	Imflammatory Disease of the Bowel, Dean Kumpuris, M.D.
1:15 p.m.	Estrogen Replacement Therapy, Steve N. London, M.D.
2:00 p.m.	Treatment of Post Non Q Wave Myocar dial Infarction, Robert Schlandt, M.D.
2:45 p.m.	Curbstone Consultation" with Doctors London & Schlandt (one-on-one question and answer session).
3:30 p.m.	Phobias, Bulemia, Insomnia and Drug Abuse, Robert L. DuPont, Jr., M.D.

SUNDAY, JULY 19

9:30 a.m.	Doctors Drugs and Fun: Modern Medicine Discovers Aesculapius Second Daughter, Robert L. DuPont, Jr., M.D.
11:00 a.m.	Adjourn

For further information about the scientific program, registration information, hands-on sessions, room reservations or cancellations, andsocial functions, contact: Carla Mayfield, Executive Vice President, AAFP, 7509 Cantrell, Suite 236, Little Rock, AR; (501) 663-9075.

JULY 18

Interoperative Radiation: A New Combined Treatment Approach to Cancer. Sponsored by the University of Kansas Medical Center. University of Kansas MedicalCenter, Kansas City, KS. AMA, AAFP, and CNE credit available. For further information contact: Eileen Buttron, University of Kansas Medical Center, Office of Continuing Education, 39th and Rainbow Boulevard, Kansas City, KS 66103; (913) 588-4480.

JULY 23-25

Cardiology Update. Sponsored by the Institute for Medical Studies, Loyola University. Minneapolis, Minnesota. Category I credit to be announced. For further information contact: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Laguna Niguel, CA 92677; (714) 495-4499.

JULY 27-31

Dynamic Psychotherapy: The Therapeutic Bond. Sponsored by the University of Colorado School of Medicine. Given Institute of Pathobiology, Aspen, Colorado. Category I credit available. For further information, contact: UC Scool of Medicine, Office of Continuing Education, 4200 East Ninth Avenue, Box C-295, Denver, CO 80262; (303) 394-5195.

JULY 27-31

Sports Medicine Update 1987. Sponsored by the Office of Continuing Medical Education, UC San Diego School of Medicine. San Diego Princess at Vacation Village, San Diego, CA. Up to 29.5 credit hours available. Fee: $325, physicians; $225, allied health professionals and resident; $30, each optional workshop. For further information contact: Office of Coutinuing Medical Education, UC San Diego School of Medicine, M-017, La Jolla, CA 92093; (619) 534-3940.

JULY 31-AUGUST 2

Pediatric Sports Medicine - North American Society of Pediatric Exercise Medicine (NASPEM). Sponsored by the University of Colorado School of Medicine. Given Institute of Pathobiology, Aspen, Colorado. Category I credit available. For further information, contact: UC School of Medicine, Office of Continuing Education, 4900 East Ninth Avenue, Box C-295, Denver, CO 80262; (303) 394-5195.

AUGUST 3-6

Thirtieth Annual Pediatric Program. Sponsored by the University of Colorado School of Medicine. Given Institute of Pathobiology, Aspen, Colorado. Category I credit available. For further information, contact: UC School of Medicine, Office of Continuing Education, 4900 East Ninth Avenue, Box C-295, Denver, CO 80262; (303) 394-5195.

AUGUST 6-11

Thirteenth Annual Primary Care Orthopedics. Sponsored by the University of Colorado School of Medicine. Given Institute of Pathobiology, Aspen, Colorado. Category I credit available. For further information, contact: UC School of Medicine, Office of Continuing Education, 4900 East Ninth, Box C-295, Denver, CO 80262; (303) 394-5195.

AUGUST 20-21

1987 Regional Perinatal Conferences. Sponsored by the Arkansas High Risk Pregnancy Program, Department of Obstetrics and Gynecology and the Office of Continuing Education, UAMS AHECs. Stroud Hall, St. Bernard's Regional Medical Center, Jonesboro, AR. Six and three-quarter hours Category I credit. Fee: $25. for physician and $10.00 for nurses and other health professionals. For further information, contact: UAMS, Arkansas High Risk

...gy Program, 4301 West Markham, Slot 518, Little ...rkansas 72205.

AUGUST 24-26

Cardiology Update. Sponsored by the Institute for Medical Studies. San Diego, California. Application has been submitted for fifteen hours of Category I credit. For further information, contact: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Laguna Niguel, CA 92677; (714) 495-4499.

SEPTEMBER 2-3

Advanced Cardiac Life Support Provider Course. Sponsored by the University of Kansas Medical Center. Student Center, Fransisco Lounge, University of Kansas Medical Center. Thirteen and one-half Category I credit hours. Fees are to be announced. For further information, contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, Office of Continuing Medical Education, 39th and Rainbow Blvd., Kansas City, KS 66103; (913) 588-4488.

SEPTEMBER 25

Nutrition Concerns for Women: A Symposium for Health Professionals. Sponsored by the University of Kansas Medical Center. Kansas City, KS. Category I credit available. For further information, contact: Eileen Buttron, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103; (913) 588-4480.

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NEW MEMBERS

BOONE COUNTY MEDICAL SOCIETY

TROUPE, JOHN T., Ophthalmologist, Harrison. Born February 24, 1953, Mobile, AL. Pre-medical education, Memphis State University, B.S.,1975. Medical education, University of Tennessee, 1978. Internship, Baptist Memorial Hospital, Memphis. Residency, Naval Hospital, San Diego, CA. Military record, 1979-1986. Previous practice, 1979-80, Primary Care Medical Officer; 1980-81, Medical Department Head; 1984-86, Naval Hospital, Millington; 1986 to present, Harrison, AR. Board certified, Ophthalmology. Member, American Academy of Ophthalmology, Arkansas Ophthalmological Society.

CHICOT COUNTY MEDICAL SOCIETY

VOGEL, WREDE E., Family Practice, Dermott. Born May 25, 1957, Orange City, Iowa. Pre-medical education, Creighton University, B.S, 1977. Medical education, Creighton University School of Medicine, 1983. Internship and Residency, Siouxland Medical Education Foundation Program (University of Iowa), Sioux City, IA. Board certified, Family Practice. Member, American Academy of Family Physicians.

GARLAND COUNTY MEDICAL SOCIETY

FAGAN, MARION F., Pathology, Hot Springs. Born October 10, 1954, Kansas City, MO. Pre-medical education, St. Mary's University, San Antonio, TX, B.S., 1976. Medical education, Univesity of Texas Medical Branch, Galveston, 1982. Internship and Residency, University of Texas Health Science Center, San Antonio. Board eligible. Member, College of American Pathologists, American Society of Clinical Pathologists.

HEMPSTEAD COUNTY MEDICAL SOCIETY

EATON, JAMES M., Anesthesiology, Hope. Born May 6, 1952, Booneville, MS. Pre-medical education, Mississippi State University, B.S., 1973. Medical education, University of Mississippi Medical Center, 1977. Internship (flexible) and residency (anesthesiology), LSU Medical Center, Shreveport. Military recrod, U. S. Army, four years. Previous Practice, 1980-84, U. S. Army; 1984-86, North Mississippi Medical Center, Tupelo. Member, AMA, ASA, IARS, ASRA, AACA.

LOGAN COUNTY MEDICAL SOCIETY

BUCKLEY, DOUGLAS A., Family Practice, Paris. Born September 9, 1947, China. Pre-medical education, University of British Columbia, M.A., 1969. Medical education, University of British Columbia, 1973. Internship, McGill University, Queen Elizabeth Hospital, Montreal, Canada. Military record, Canadian Air Force, 1970-81. Previous practice, Canada, three years; West Germany, four years; Nashville, AR, five years.

MILLER COUNTY MEDICAL SOCIETY

WARREN, WILLIAM S., JR., Anesthesiology (direct patient care), Texarkana. Born October 17, 1955, Little Rock. Pre-medical education, University of Arkansas, Little Rock, B.A., 1978. Medical education, University of Arkansas for Medical Sciences, 1982. Internship and Residency, University of Tennessee Medical Center, Memphis. Previous practice, one year, Texarkana. Board eligible. Member, AMA.

POPE COUNTY MEDICAL SOCIETY

CLOUD, JOE A., Obstetrics/Gynecology, Russellville. Born September 28, 1954, Marlow, OK. Pre-medical education, University of Arkansas, Little Rock, B.S., 1977. Medical education, University of Arkansas for Medical Sciences, 1982. Residency, UAMS, Ob-Gyn. Previous practice, six months, Russellville. Board eligible. Member, Junior Fellow, American College of Obstetrics & Gynecology.

MONFEE, ANDREW M., III, Family Practice, Russellville. Born May, 14, 1955, Pine Bluff. Pre-medical education, University of Arkansas, Monticello, B.S., 1979. Medical education, University of Arkansas for Medical Sciences, 1983. Internship and Residency, UAMS. Chief Resident, 1985-86. Board certified, Family Practice. Member, Arkansas Academy of Family Physicians.

PULASKI COUNTY MEDICAL SOCIETY

BOX, JIM F., Emergency Medicine, Little Rock. Born, January 1, 1956, Little Rock. Pre-medical education, University of Arkansas, Fayetteville, B.S., 1979. Medical education, University of Arkansas for Medical Sciences, 1983. Internship and Residency, UAMS, Emergency Medicine. Board eligible, Emergency Medicine.

BRIMBERRY, RONALD K., Family Practice, Little Rock. Born, October 14, 1952, Fort Hood, TX. Pre-medical education, Harding College, Searcy, AR, B.S., 1977. Medical education, University of Arkansas for Medical Sciences, 1981. Internship and Residency, Family Practice, UAMS. Board certified, Family Practice.

EISENACH, ROBERT J., Family Practice, Little Rock. Born July 30, 1945, Atlanta, GA. Pre-medical education, University of Wisconsin, Madison, B.S., 1967. Medical education, University of Florida, Gainesville, 1972. Internship and Residency, University of Arkansas for Medical Sciences. Teaching appointment, Instructor, UAMS. Board certified, Family Practice. Member, American Academy of Family Practice.

SEBASTIAN COUNTY MEDICAL SOCIETY

TAIT, STACY ROBERT, Anesthesiology, Fort Smith. Born, October 5, 1956, Bartlesville, OK. Pre-medical education, University of San Diego, 1979. Medical education, University of Oklahoma, Oklahoma City, 1983. Internship and Residency, University of Oklahoma, Oklahoma City. Board eligible. Member, AMA, ASA, IARS.

WALKER, GARY V., Anesthesiology, Fort Smith. Born August, 14, 1956, Lawton, OK. Pre-medical education, University of Oklahoma, Oklahoma City, B.S., 1978. Medical education, University of Oklahoma, Oklahoma City, 1983. Internship and Residency, University of Oklahoma, Oklahoma City. Board eligible. Member, American Society of Anesthesiologists.

WILSON, JAMES M., Anesthesiology, Fort Smith. Born August 5, 1957, Fort Smith. Pre-medical education, Tulane University, B.S., 1979. Medical education, Tulane University, 1983. Internship and Residency, Alton Ochsner Medical Foundation Program. Board eligible. Member, American Society of Anesthiologists.

WASHINGTON COUNTY MEDICAL COUNTY

CHASE, PATRICK R., Anesthesiology, Fayetteville. Born September 26, 1953, San Benito, TX. Pre-medical education, University of Arkansas, B.S., 1975; M.S., 1978. Medical education, University of Arkansas for Medical Sciences, 1982. Internship, Louisiana State University, New Orleans. Residency, UAMS. Practice experience, one and one-half years. Board certified. Member, AMA, ASA.

[illegible]KMAN, THOMAS R., Internal Medicine/Rheumatology, [illegible]ville. Pre-medical education, Vanderbilt University, B.A., [illegible]. Medical education, University of Arkansas for Medical [illegible]ences, 1977. Internship and Residency, Barnes Hospital Group Program, St. Louis, MO. Fellowship, Barnes Hospital, Rheumatology. Practice experience, two and one-half years, Fayetteville. Teaching appointments, Instructor, Washington University School of Medicine, St. Louis; Asst. Clinical Professor, UAMS; Associate Investigator for Howard Hughes Medical Institute. Board certified, Internal Medicine/Rheumatology. Member, American College of Physicians, American federation for Clinical Research and American Rheumatism Association.

YELL COUNTY MEDICAL SOCIETY

VICTORIOSO, JOSE A., JR., General Practice, Danville. Born March 1, 1948, Manila, Philippines. Pre-medical education, University of the Phillipines and University of the East, B.S., 1968. Medical education, University of the East College of Medicine, 1973. Internship, New York Infirmary Beekman Downtown Hospital Program, New York, NY. Residency, Mercy Catholic Medical Center Program, Darby, PA and Kingsbrook Jewish Medical Center, Brooklyn, NY. Practice experience, six years. Teaching appointments, Assistant Instructor, University of the East.

RESIDENT MEMBERS

GALLIEN, WRENDA. Born, May 3, 1951, Oakland, CA. Premedical education, Loma Linda University, Riverside, CA, B.S., 1974. Internship and Residency, UAMS. Field of study, psychiatry. Fellowship, Child psychiatry.

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INDEX
THE JOURNAL OF THE ARKANSAS MEDICAL SOCIETY
Volume 83
June 1986 - May 1987

(O) Original Article; (SP) Special Article; (OB) Obituary; (R) Resolution; (E) Editorial; (LE) Letter to Editor

-A-

A Job Well-Done, (SP) 163
Abdominal Colectomy, Total, Indications and Post-operative Function (O) 85
Abruptio Placenta (O) 475
Acquired Immunodeficiency Syndrome in Arkansas, (O) 164
Alexander, J.A. (O) 365
Ambulatory Surgery, Major, The Inguinal Herniorrhaphy as an Outpatient Procedure(O) 125
American Medical Association "A Washington Update" (SP) 315
Angelchik Prosthesis, Migration of, and Smal Bowel Obstruction (O) 437
Angioplasty, Coronary: Current Strategies and Practice (O)219
Annual Session, 110th, Proceedings (SP) 6, 389
Annual Session: Why is it Important? (SP) 377
Apnea, Obstructive Sleep, Current Therapy (O) 171
Appendicitius, in Children (O) 293
Appendicoliths, in Children (O) 293
Araoz, Carlos A. (O) 184, 259
Arkansas, Acquired Immunodeficiency Syndrome in (O) 164
Arkansas Association of Defense Counsels, Union County Medical Society
Resolution Concerning Liaison with the (R) 18
Arkansas Breast Cancer Education Project (O) 369
Arkansas, Health Fraud in (O) 221
Arkansas Medical Society, and Lobbying Effort (SP) 296
Arkansas Medical Society, Open House and Dedication (SP) 184
Arkansas Medical Society, Resident Physician Section (E) 226
Arkansas Medical Society, Staff Members (SP) 188
Arpayoglou, Alejandro (O) 437
Artery Disease, Coronary, Psychological Aspects of (O) 205
Atkinson, W. E. (O) 353, 447
Atherosclerotic Disease, Carotid, Current Concepts in the Evaluation of (O) 134
Athlete, Examination of the Injured Knee in the (O) 128
Atkinson, William E. (O) 331
Auxiliary of the Arkansas Medical Society, Convention Report (SP) 47
Ave Atque Vale (E) 161

-B-

Bachman, D. S. (O) 293
Bailey, H. A. Ted, Jr. (O) 62
Baker, Glen F. (SP) 227
Bard, David S. (O) 138
Barnett, Troy F. (O) 224
Bennett, William G. (O) 164
Blanton, M. (O) 365
Bomar, Robert L. (O) 85
Bost, R. Kingsley (O) 293
Breast Cancer, An Arkansas Education Project (O) 369
Breast Cancer, Early (O) 353
Brooksher, William Riley, Jr. (O) 449
Brown, Pat Rhine (O) 355
Brown Recluse Spider Bites, Treatment of Clinically Diagnosed, with Hyperbaric Oxygen: A Clinical Observation (O) 199
Buckner, C. Barry (O) 343
Bucolo, Anthony P. (O) 447
Burge, John P, President's Address (SP) 7
Bussell, Kathy L. (O) 271
Butorphanol, Maternal and Fetal Response to the Intrapartum Use of (O) 286

-C-

Cancer, Breast , Adjuvant Therapy for (O) 483
Cancer, Breast, An Arkansas Education Project (O) 369
Cancer, Breast, Early (O) 353
Cancer Mangement, Unproven Methods of (O) 95
Cancer, Prostate (O) 224
Canfield, Michael E. (O) 241
Carcinoma, Gallbladder, Multi-Modality Treatment of (O) 375
Carcinoma, Thyroid, Follicular, with Pulmonary Metastasis (O) 271
Carcinoma, Larynx and Pharynx (O) 447
Carcinoma, Lung, with Mediastinal Metastasis (O) 184
Carcinoma, Lung, Role of Thoracic CT in the Staging of (O) 343
Carcinoma, Metastasic Colon, to the Liver (O) 295
Carcinoma, Renal Cell, Head and Neck Manifestations of (O) 117
Carcinoma, Squamous Cell, of the Supraglottic Larynx (O) 259
Carotid Atherosclerotic Disease, Current Concepts in the Evaluation of (O) 134
Cataract Surgery, From Inpatient to Outpatient (O) 473
Cazort, Alan Garner (OB) 198, (R) 239
Cerebellar Tumors, Pediatric (O) 100
Chadduck, William M. (O) 100
Chapman, Diana D. (O) 433
Chisholm, Dan P. (O) 224
Chlamydia Trachomatis, Incidence of, in the Female Students Population at the University of Arkansas/Fayetteville (O) 217
Chudy, Amail (SP) 377
Clark, Richard B. (O) 449
Clawson, D. Kay (O) 120
Cockrill, H. Howard (O) 331
Colectomy, Total Abdominal, Indications and Post-operative Function (O) 85
Colle's Fracture (O) 252
Controlled Substances Act (O) 291
Coronary Angioplasty, Current Strategies and Practice (O) 319
Coronary Artery Disease, Psychological Aspects of (O) 205
Constitutional Revisions Committee, Report of (SP) 35
Council of the Arkansas Medical Society, Supplemental Report of the (SP) 12, 31
Councilors (SP) 44
Cystitis, Interstitial (E) 258

-D-

Daniel, Richard L. (OB) 160
Darby, William Jefferson, Jr., M.D., Nutritionist (SP) 75
Dawson, John H., Address by (SP) 19

ion, Open House, Arkansas Medical Society (SP) 186
ia, The Diagnosis of (O) 365
etes Management, The Effect of Short-Term Intervention on ng-Term (O) 241
Diabetic Complications, A New Treatment Vista for (E) 72
Diabetic Woman, Pregnant, Nutritional Care of the (O) 245
Dillaha, Calvin J. (SP) 297
Dillon, Brian T. (O) 325
Discriminatory Lists (E) 105
Defense Counsels, Union County Medical Society Resolution Concerning Liaison with the Arkansas Association of(R) 18
Don't Forget the Zebras (E) 258

-E-

Echovirus Type 11, Isolation of , and Enterovirus Type 71 in a Day Care Winter Outbreak (O) 469
Elders, M. Joycelyn (O) 241
Ellis, William A., Jr. (OB) 159
Endometriosis, A Review (O) 177
Enterovirus Type 71, Isolation of, and Echovirus Type 11 in a Day Care Winter Outbreak (O) 469
Erickson, Clark (OB) 464
Erwin, Deborah O. (O) 369
Estes, Kent (O) 217
Executive Committee of the Council (SP) 45

-F-

Fitzhugh, A. S. (E) 258
Flippin, Tony A. (O) 259,483
Fontenot, Edwin (O) 343
Fracture, Colle's (O) 252
From Other Years (SP) 75, 107

-G-

Garner, Carole (O) 245
Goldberg, Stanley M. (O) 56
Golden, William (SP) 441
Goldstein, Michael G. (O) 205
Graham, Sharon S. (O) 62
Granulomatosis, Wegener's (E) 148
Grimes, H. Austin (O) 175
Green, William Claire, M.D. (SP) 150

-H-

Hanna, Calvin (SP) 75
Harper, T. P. (OB) 198
Harris, D. R. (O) 224, 375
Hart, J. Clyde (OB) 364
Hatch, M. H. (O) 469
Haynes, W. Ducote (O) 224, 259, 295, 331, 353
Head and Neck Manifestations of Renal Cell Carcinoma (O) 117
Health Fraud in Arkansas (O) 221
Health Policy Agenda Project, Reflections on the (SP) 441
Heard, Jeanne K. (O) 164
Henker, Fred O. (SP) 150
Herniorrhaphy, Inguinal, as an Outpatient Procedure (O) 125
Hiller, F. Charles (O) 171
Holder, John C. (O) 343,365
Holt, Todd N. (E) 226
Hough, Aubrey J., Jr. (SP) 227
House of Delegates Meeting. Proceeding of the (SP) 309
Hyperbaric Oxygen, Therapy in a Newborn Infant: Case Presentation (O) 325
Hyperbaric Oxygen, Treatment of Brown Recluse Spiders with (O) 199

-I-

Ileostomy, Alternatives to, in 1986 (O) 56
Immunodeficiency Syndrome, Acquired, in Arkansas (O)
Impaired Physicians Committee, Report of the (SP) 17
Impingement Syndrome of the Soulder (O) 347
Inaugural Address (SP) 3
Inguinal Herniorrhaphy as an Outpatient Procedure, Major Ambulatory Surgery (O) 125
IUD, Unusual Case of Post-Abortal Sepsis, associated with (O) 138

-J-

Janati, A . (O) 365
Jansen, Andrew J. (O) 437
Jansen, G. Thomas (SP) 297, (R) 307
Jelovsek, Frederick R. (O) 286, 475
Johnson, Philip H. (O) 128, 347
Jones, John C. (O) 375

-K-

Kahn Alfred, Jr. (E) 72, 105, 148, 161
Kearns, Francine S. (O) 241
Kemp, Stephen F. (O) 241
Kimsey, Warren Harrison (OB) 159
Knee, Examination of the Injured, in the Athlete (O) 128

-L-

Laakman, Robert W. (O) 295
LaMastus, Ken (SP) 296
Landgren, Robert C. (O) 184
Langston, Harold (O) 483
Laney, Mark (O) 53
Larynx and Pharynx, Carcinoma of the (O) 447
Larynx, Supraglottic, Squamous Cell Carcinoma of the (O) 259
Laws, J. K. (OB) 364
Lesions in the Oral Cavity (O) 87
Lilly, Ken (SP) 3
Lincoln, Ben M. (O) 184
Lists, Discriminatory (E) 105
Lobbying, and the Arkansas Medical Society (SP) 296
Long, Cecil A. (O) 475
Lorell, Beverly H. (O) 319
Lung, Carcinoma of, with Mediastinal Metastasis (O) 184
Lymphoma, Malignant (O) 331

-M-

Mahoney, F. Patrick (O) 280
Major Ambulatory Surgery, The Inguinal Herniorrhaphy as an Outpatient Procedure (O) 125
Malignant Lymphoma (O) 331
Mangum, Don H. (O) 271
McCoy, Orville "O.B." (OB) 364
McDonald, James E. (O) 184
Mediastinal Metastasis, Carcinoma of Lung with (O) 184
Meisenheimer, Martin P. (OB) 463
Mendelsohn, Lawrence A. (O) 375
Metastasis, Mediastinal, Carcinoma of Lung with (O) 184
Millard, I. Leighton (O) 252
Miller, Frank C. (O) 286
Milton, David T. (O) 134
Morris, W. Dale (O) 353
Morrison, Doyle H. (OB) 159
Moses, E. B. (O) 469
Murphy, Fred Y. (O) 271
Myers, Eugene N. (O) 87

-N-

Narian, J.P. (O) 469
Nelson, Alvah J., III (O) 447
Nettleship, Anderson (SP) 227
Newbern, David H. (O) 447
Nicks, Sally A. (O) 271
Non-Weightbearing Bone, The Myth of the (O) 327

-O-

Obstructive Sleep Apnea, Current Therapy (O) 171
Oddson, Terrence A. (O) 259
Officers of the Arkansas Medical Society 1986-87 (SP) 44
Olive, David L. (O) 177
Oral Cavity, Lesions in the (O) 87

-P-

Padilla, Fernando (O) 224
Pallin, John (O) 343
Pappas, James J. (O) 62
Pearce, Larry W. (O) 138
Pediatric Cerebellar Tumors (O) 100
Phillips, Don (O) 221, 291
Physician, in a Changing Society (O) 120
Placenta, Abruptio (O) 475
Post-Abortal Sepsis, Unusual Case of IUD-Associated (O) 138
Prather, Jerry L. (O) 483
Pregnant Diabetic Woman, Nutritional Care of the (O) 245
President's Address (SP) 7
Proceedings of the 110th Annual Session of the Arkansas Medical Society (SP) 6
Prosthesis, Angelchik, Migration of ,and Small Bowel Obstruction (O) 437

-Q-

Quirk, J. Gerald, Jr. (O) 475

-R-

Rehabilitation, The Relevance of, in Primary Care (O) 280
Renal Cell Carcinoma, Head and Neck Manifestations of (O) 117
Resident Physician Section, Arkansas Medical Soceity (E) 226
Rhine, Thomas Edwin, (O) 355
Robertson, Shirley (O) 217
Rodgers, Clyde Dudley (OB) 464, (R) 464
Ross, S. William (O) 184, 331
Roy, F. Hampton (O) 473

-S-

Saltzman, Ben N. (O) 95
Sammons, James H. (SP) 315
Sanders, Jan (O) 217
Schneider, Mary Jo (O) 433
Schock, Charles C. (O) 92, 327
Scott, Don I. (O) 224, 295, 483
Scrima, Lawrence W. (O) 171
Scruggs, Joe B. (R) 160
Senior Citizens' Programs, The Potential for Cost-Effective: A Case Study (O) 433
Sepsis, Post-Abortal, Unusual Case of IUD-Associated (O) 138
Sigler, John K. (OB) 463
Shoulder, Impingement Syndrome of (O) 347
Small Bowel Obstruction, Migration of Angelchik Prosthesis and (O) 437
Small Fenestra Stapedectomy (O) 62
Snyderman, Nancy L. (O) 117, 171
Society, Changing, The Physician in a (O) 120
Sorrells, R. Barry (O) 66
Stapedectomy, Small Fenestra (O) 62
Sternberg, Jack J (O) 353
Syndrome, Acquired Immunodeficiency, in Arkansas (O) 164
Svendsen, Fred J. (O) 199

-T-

The Exec's Corner (SP) 296
There is Nothing That Can Be Done, Orthopedic Trends (O) 66
Thompson, A. Reed (O) 259
Thompson, Carolyn (O) 369
Thoracic CT, TheRole of in the Staging of Lung Carcinoma (O) 343
Thyroid Carcinoma, Follicular with Pulmonary Metastasis (O) 271
Tics and Tourette's Syndrome: A Review (O) 53
Torres, Stephen E. (O) 177
Tourette's Syndrome: A Review, Tics and (O) 53
Tranum, Bill L. (O) 295
Tumors, Pediatric Cerebellar (O) 100

-U-

Union County Medical Society Resolution Concerning Liaison with the Arkansas Association of (R) 18

-V-

Vanderpool, R. Douglas (O) 217
Vasilevsky, Carol-Ann (O) 56
Vaughan, Wallace C. (O) 117
Vesely, David L. (O) 164, 271
Vogel, Robert G. (O) 325
Voth, Donald E. (O) 433

-W-

Walking (O) 175
Warford, Lloyd R. (O) 325
Watson, R. Alan (O) 164
Wegener's Granulomatosis (E) 148
Weiss, Gerald N. (O) 125
Wetmore, Stephen J. (O) 171
Wong, Ting-Chao (O) 138
Woody, Robert C. (O) 53
Wroten, David (SP) 163
Wyatt, Richard A. (O) 286

-Y-

Yamauchi, T. (O) 469
You Can't Change Human Nature - The Halo Revisited, Orthopedic Trends (O) 92

-Z-

Zell, Lawrence M. (OB) 83, (R) 84

-A-

Abiseid, Jose E. 238
Akin, Charles Ray 341
Allen, William M. 363
Anderson, Robert S. 463 (Res.)
Anderson, Rupert Cotham 268
Ashcraft, Cynthia K. 383 (Res.)
Axelsen, Nils K. 463

-B-

Ball, Charles S. 463 (Res.)
Barger, Denver L. 383 (Res.)
Barton, Gary M. 463 (Res.)
Beadle, Beverly A. 463 (Res.)
Bean, David C. 463 (Res.)
Beck, Howard W. 363 (Res.)
Beck, Suzanne A. 463 (Res.)
Bell, Rex H. 383 (Res.)
Billingsley, Robert E., Jr. 463
Blachly, Ronald J. 341
Boone, Max Robert 196
Bowen, William Scott 237
Bowlin, Randal G. 383 (Res.)
Box, Jim F. 495
Boyle, Ronald H. 463
Branham, Larry A. 383 (Res.)
Brian, Johnny E., Jr. 383 (Res.)
Brimberry, Ronald K. 495
Brown, David L. 306
Brown, Pamela Sharon 269
Bryant, Carole L. 383 (Res.)
Bryant, Deborah Mobley 83
Buckley, Douglas A. 495

-C-

Calhoun, Mike 383 (Res.)
Canale, James L. 82
Carfagno, Jeffery J. 383 (Res.)
Carpenter, Kennan 341
Carter, Stephen E. 463 (Res.)
Cathey, Janet Riley 237
Cauley, David B. 463 (Res.)
Chase, Patrick R. 495
Chatman, Ira D. 383
Cheadle, Matt G. 463 (Res.)
Cheshier, James L. 82
Clardy, James A. 383 (Res.)
Cloud, Joe A. 495
Collins, David Neal 196
Collins, Stanley R. 463 (Res.)
Colwell, Karen L. 363
Conn, James Warren 195
Cook, John Clyde 305
Cook, James T. 362
Crabtree, Herbert M. 463 (Res.)
Crews, James C. 270 (Res.)
Croom, James C. 340
Cummins, J. Craig 383 (Res.)
Cutler, Otis E. 305

-D-

David, J. Lynn 83
Davis, Brett C. 463 (Res.)
Deramos, Agapito Y, 362
Dillon, Brian T. 383 (Res.)
Dixon, Gerald R. 340
Dixon, Keith A. 383 (Res.)
Doucet, Marlon Joseph 269
Dykman, Thomas R. 496

-E-

Eaton, James M. 495
Eisenach, Robert J. 495
Eisner, Richard A. 383 (Res.)
Emerson, Steven Lewis 305
Erickson, Curtis A. 463 (Res.)
Evans, Matthew L. 363

-F-

Fagan, Marion F. 495
Farmin, Jeffrey L. 383 (Res.)
Farrell, Stella B. 364 (Res.)
Feinberg, Thomas R. 463 (Res.)
Fendley, Herbert F. 306
Feurtado, Margaret M. 383 (Res.)
Finck, John H. 463 (Res.)
Fioravanti, Bernard L. 363
Fisher, Robert A. 383 (Res.)
Fitzgerald, Charles P. 463
Fletcher, Anthony Maurice 306
Flowers, William Craig 269
Fong, Fun H., Jr. 383 (Res.)
Fonticiella, Adalberto 462
Ford, John S. 116

-G-

Gallien, Wrenda 496 (Res.)
Garcia-Rill, Susan G. 383 (Res.)
Garmer, D. Joe 463 (Res.)
Gibbs, Mark Rothwell 196
Gilliam, David L. 384 (Res.)
Glasgow, Mark L. 384 (Res.)
Gorman, Paul W. 463 (Res.)
Graham, Charles J. 463 (Res.)
Graham, John W. 305
Grant, Karen G. 342
Graves-Tippin, Kim 364
Green, Benny James 342
Gross, Lawrence B. 463 (Res.)

-H-

Hahn, Herbert Leonard 197
Hall, David C. 363
Harmon, Ben H. 384 (Res.)
Harris, Frances R. 463
Harshfield, David Lee, Jr. 269
Heard, Jeanne L. 384 (Res.)
Hearnsberger, H. Graves, III 384 (Res.)
Hedrick, William P. 364 (Res.)
Helm, Sam D. 463 (Res.)
Hendren, Mike C. 384 (Res.)
Herrman, David Read 270 (Res.)
Hester, Joe D. 462
Hill, Allen Carruth 237
Hixson, Marcia Lynn 116
Hobbs, Gregory D. 384 (Res.)
Hodges, Steven C. 463
Holt, Terry D. 463 (Res.)
Horton, Charles R. 463 (Res.)
Hoyt, Jonathan L. 306
Hui, Anthony Nai-Kit 307
Hutcheson, Galen W. 463 (Res.)

-I-

Ibrahim, Aziz K. 237
Isaacson, Michael Linell 341

-J-

Jui, John B. 341
Jones, Jeffrey Turner 82
Jones, Jerry Atrhur 268
Jones, Judith R. 364 (Res.)
Jones, Theodore Benjamin 306
Joseph, William Frank 238

-K-

Kilgore, Reed W. 238
Kraby-McLaurin, Barbara D. 384 (Res.)
Kozlowski, Karen J. 463 (Res.)

-L-

Lambert, Robert Alexander 116
Lantier, Steven J. 463 (Res.)
Lantz, Brett A. 463 (Res.)
Livingston, Richard Lee 197
Lucas, Kathryn Jean 116
Lupo, David A. 306
Lyle, Robert E. 384 (Res.)
Lytel, John O. 463 (Res.)

-M-

Mahesh, Vinit K. 384 (Res.)
Mahrey, William T. 384 (Res.)
Maloney, Thomas Russell, III 238
Mangum, Donald H. 384 (Res.)
Marvin, Peter Michael 197
Mayo, Russell E. 305
McAdams, Edward L. 364
McCracken, Gail Ann 197
McComb, Randy G. 384 (Res.)
McCowan, Timothy C. 463 (Res.)
McGowan, William J. 463 (Res.)
McLean, Joseph A. 463
McLeane, Mark D. 384 (Res.)
McNee, Valerie 197
Medlock, Rickey D. 463 (Res.)
Melhorn, Virginia B. 463 (Res.)
Middaugh, Randall S. 384 (Res.)
Milian-King, Maria E. 463 (Res.)
Miller, Keith E. 384 (Res.)
Monfee, Andrew M, III 495
Montgomery, Earl W. 195
Moore, Steven 341
Morris, Paula K. 238

Mullis, R. Jay 463 (Res.)
Mundie, J. Ryland 83
Murphy, Bruce Edward 238
Murphy, Fred Y. 462
Murphy, Jeanne Ann 306
Murphy, Robert A. 384 (Res.)
Myers, Gary Dean 196

-N-

Naisbitt, Mark S. 384 (Res.)
Nelson, Steve Bryan 238
Newsum, Jon Kirby 197
Nixon, David Allen, Jr. 237
Norman, Charles R. 384 (Res.)
Northum, Charles S. 307

-O-

Olive, David Leon 83
Olsen, Mark F. 463 (Res.)

-P-

Pang, Robert Russell 307
Patton, Robert C. 82
Peacock, Joel H.463 (Res.)
Petersen, Michael S. 384 (Res.)
Porter, Martin D. 364 (Res.)
Poteet, Charles L. 82

-R-

Raval, Jugalkishor T. 463 (Res.)
Reimund, Eric L. 384 (Res.)
Rhodes, David F. 384 (Res.)
Ridout, Robert M., Jr. 196
Ritchie, Robert Ross 269
Ritz, Ralph C. 462
Robbins, Joseph R. 384(Res.)
Robinson, John R. 237
Rodriquez-Conn, Fulvia S. 195
Rourk, John H. 462
Rowland, Sheryl L. 384 (Res.)
Russell, James B. 384 (Res.)

-S-

Sammons, L. C., Jr. 196
Saunders, Earnest L. 305
Schuller, Hans Everard 306
Shaak, George W. 463 (Res.)
Shaeen, Saad P. 463 (Res.)
Shaffer, William L. 305
Shirm, Steven W. 463 (Res.)
Singer, Peter G. 384 Res.)
Sitz, Karl V. 463 (Res.)
Slaton, Catherine Reed 82
Slezak, James W. 237
Smith, Robert E. 463 (Res.)
Smolarz, Gregory J. 462
Speed, William Eugene, Jr. 83
Stanley, Sharilyn K. 384 (Res.)
Stannard, Janet H. 463 (Res.)
Steinside, J. Bill 463 (Res.)
Stewart, Deborah A. 463 (Res.)
Stinnett, Thomas C. 463 (Res.)
Stone, Michael R. 463 (Res.)
Stratton, Randall L. 384 (Res.)
Sudderth, Brian F. 269
Sutterfield, Terry F. 463 (Res.)

-T-

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Taylor, Ruth D. 384 (Res.)
Tedder, Barry C. 384 (Res.)
Thomas, Ellidee D. 363
Toatley, Donald U. 341
Tonyman, Kenneth 305
Towbin, John A. 384 (Res.)
Townsend, Michael E. 384 (Res.)
Troupe, John T. 495
Tucker, David J. 363
Tullis, Gene Edward 306
Turner, Kenneth B. 384 (Res.)

-V-

Vermont, Charles A. 463 (Res.)
Victoriosio, Joes A., Jr. 496
Vogel, Wrede E. 495

-W-

Waldrip, William J. 463 (Res.)
Walker, Gary V.
Waltman, Claire 306
Warmack, Asa M. 463 (Res.)
Warren, William S., Jr. 495
Watson, Charles R. 363
Watson, Vye Branch 342
Webb, Roy T. 384 (Res.)
Weiss, David W. 463 (Res.)
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Wilson, James M.495

-Z-

Zini, James E. 341



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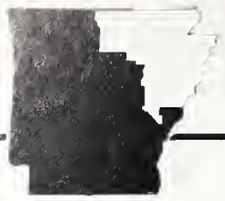
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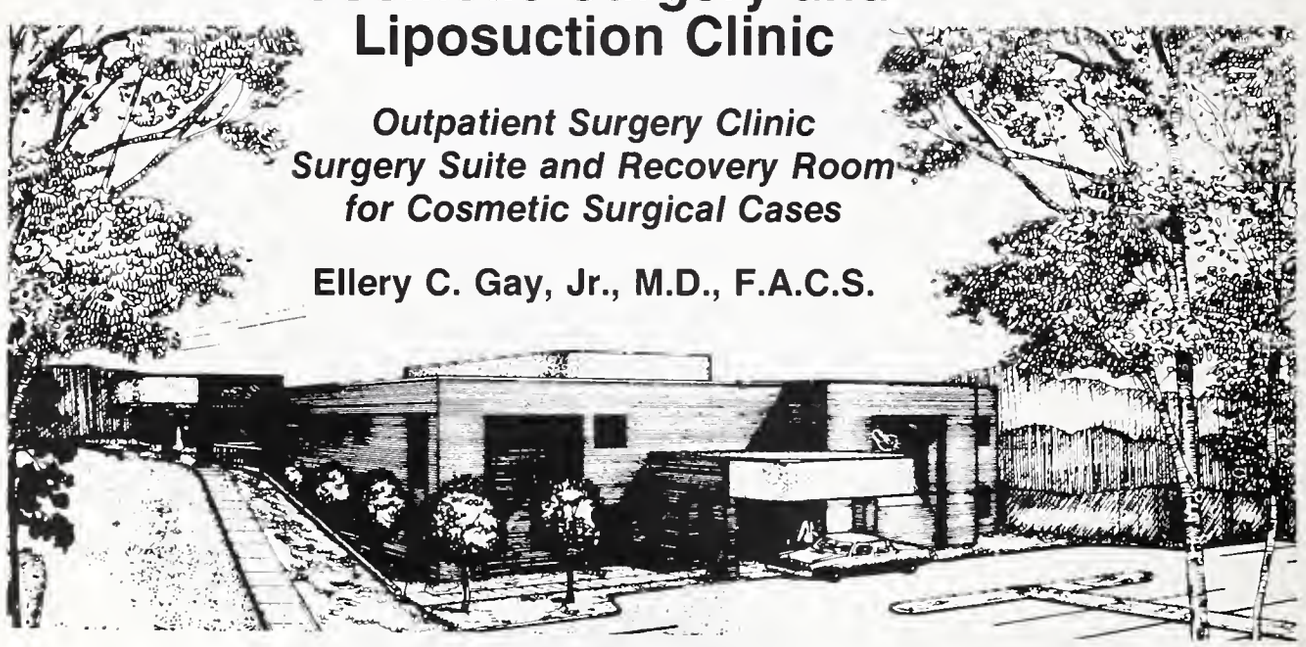
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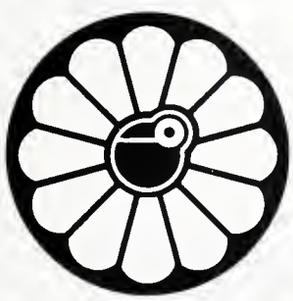
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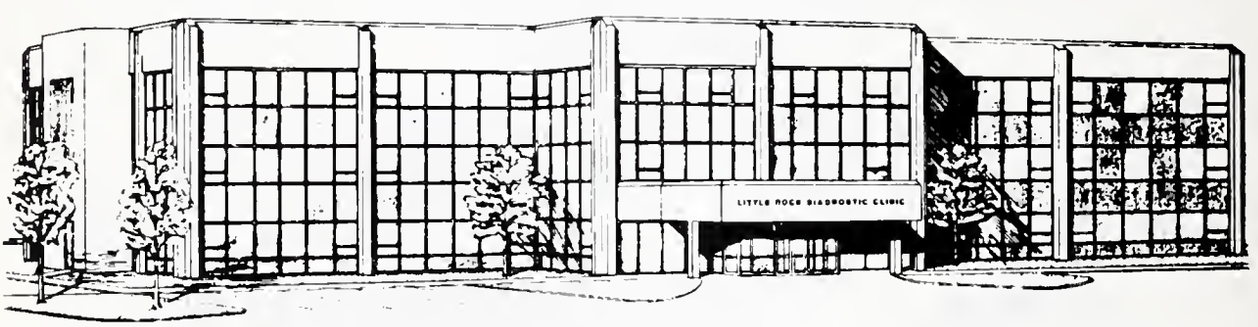
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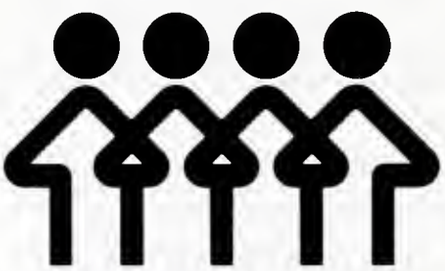
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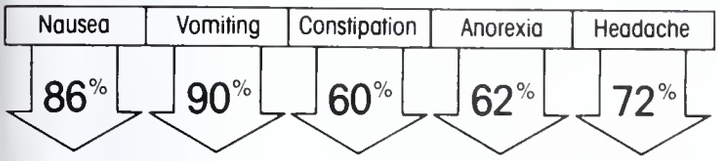
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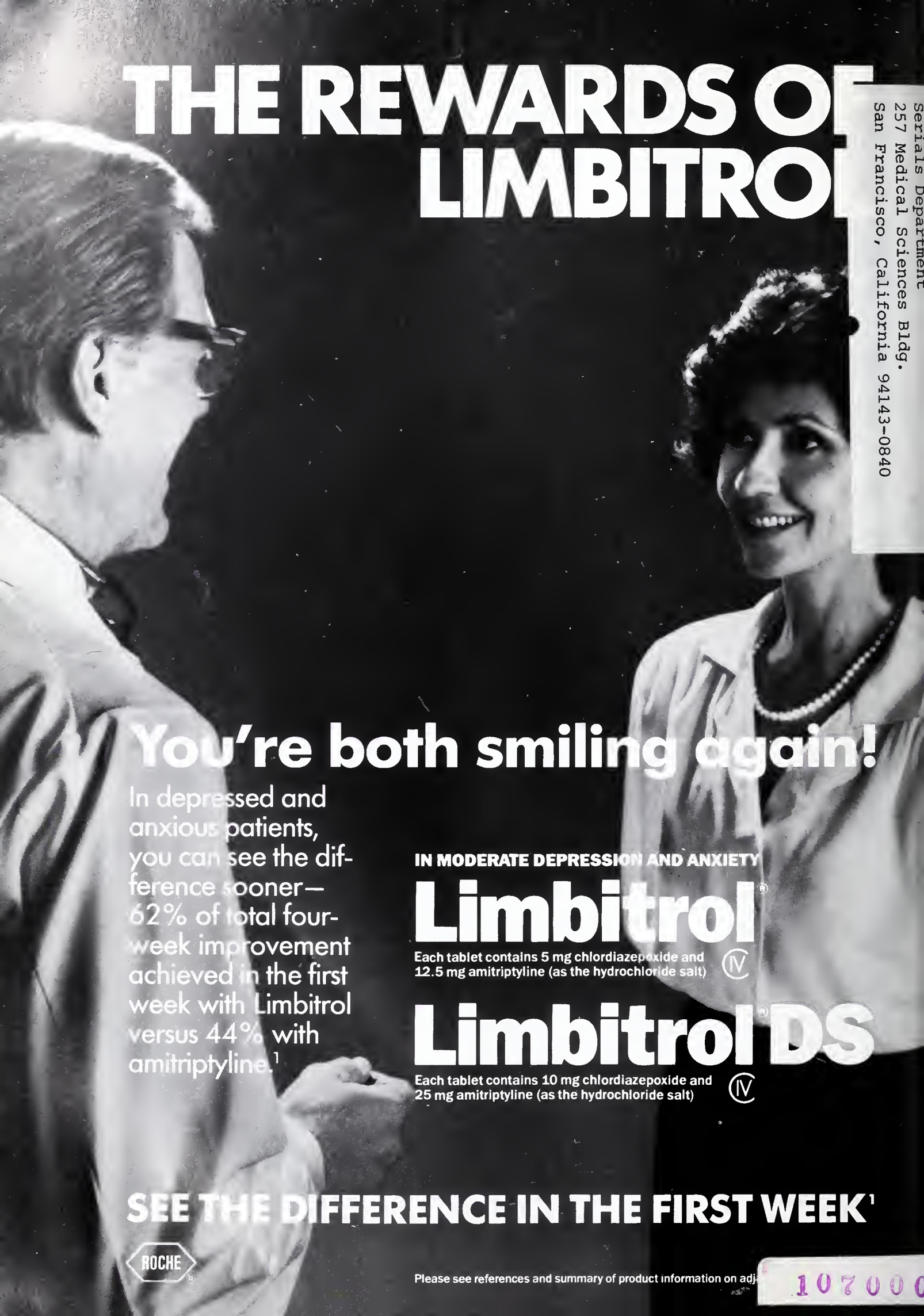
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